RADIO-PERCEPTION

THE JOURNAL OF THE
BRITISH SOCIETY OF DOWSERS

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JOURNAL OF THE
BRITISH SOCIETY OF DOWSERS

Vol. IX No. 71 March, 1951

NOTICES

The " Proceedings " of the Scientific and Technical Congress on Radionics and Radiesthesia held in May last year are now available, price 7/6 post free. Applications for copies, prepaid, should be made to Dr. C. S. Nicholson, 8 Ashburn Gardens, London, S.W.7, or to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2.

Copies will **not** be procurable from Booksellers.

* * * *

The book by Mr. V. D. Wethered, B.Sc., entitled *A Radiesthetic Approach to Health and Homeopathy* or *Health and the Pendulum*, is now available, price 10/6 to non-members and 8/6 to members.

* * * *

The following books are also published by the Society :—
Dowsing, by Captain W. H. Trinder, 10/- (7/6 to members)
Radiations, by T. Bedford Franklin, M.A., F.R.S.E., 8/6

* * * *

The Summer Meeting will probably be held at " The Node," a country hotel near Codicote, Herts, about 30 miles from London, on Saturday, July 7th. Members likely to attend by car and willing to take passengers are asked to communicate with the Assistant Secretary stating the number of seats available.

* * * *

A new list of books in the B.S.D. Library is being prepared and will be available on application to the Assistant Secretary :—

The following books have been added to the Library :—
Journey to Lourdes, by Alexis Carrel, 1950 ; 77 pages
Electrons in Action, by J. G. Daunt, 1946 ; 148 pages

* * * *

Reprints of the article by Colonel K. W. Merrylees, entitled " Notes for Beginners," can be obtained from the Editor.

Reprints of the lecture given by Dr. A. T. Westlake on December 14th, 1949, " Wanderings in the Radiesthetic Field," can be obtained from the Editor.

* * * *

Contributions for the *Journal*, preferably in typescript, should be sent to the Editor at least five weeks before the first day of March, June, September and December, if they are to appear in the respective *Journals* for those months.

The price of new *Journals* to members, in excess of the free number, and of old *Journals*, is 2/- and 1/6 respectively.

Six free copies of the *Journal* will be given, on request, to writers of articles in it, in addition to the usual copy.

* * * *

The Society's badges can be obtained from the Honorary Secretary for 1/3 post free.

* * * *

Communications for the Editor, and inquiries, should be sent to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2.

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PART ONE

RADIOGRAPHIC PROSPECTION FOR UNDERGROUND WATER

Lecture delivered at the Scientific and Technical Congress of Radionics and Radiesthesia, 1950.

BY J. CECIL MABY, B.Sc., A.R.C.S., F.R.A.S.

The Chairman, A. H. Reeves, O.B.E., A.C.G.I., D.I.C., M.I.E.E., said: "In introducing the next lecturer I have an easy task: there must be very few present here to-day who do not know Mr. Maby, and his reputation in the field that he is going to cover. I first met him myself during the war, when I was a Government scientist—a so-called 'boffin,' in the jargon of those days. Maby and his collaborator, Franklin, were demonstrating the future possibilities of a new device, based on dowsing principles, for detecting enemy objects such as aircraft; and that evening, at the Boscombe Down Experimental Station, I and several others were given the task of investigating and reporting on these claims. I must admit that at that time I went with the intention of finding fault in his apparatus, and showing that the inventors' claims were baseless. After a few days' further tests, however, I had to confess to myself, rather reluctantly, that there was definitely something in the device well worth pursuing further, though the principles used were quite unorthodox to conventional science. I reported accordingly.

In this way was born a personal friendship and scientific association between Mr. Maby and myself that has been very fruitful in introducing me to a wide field of scientific law that I found quite new.

I have not so far worked personally on dowsing; but since that day at Boscombe Down I have verified in my own laboratory quite a few of Maby's claims, particularly in the field of mental and bodily effects on various types of detecting apparatus. I now know Maby for a careful and skilled experimenter, using techniques based on really sound scientific principles. Not only has he had long experience of his subject in a professional capacity, but he has also made a life-long study of the science behind it—two things which by no means always go together. I have pleasure in introducing what I know will be a most interesting paper."

GENERAL INTRODUCTION

In our book, published in 1939 (1), at the end of the first phase of a detailed investigation of dowsing and radiesthesia, on behalf of the B.S.D., T. B. Franklin and I surveyed the subject in a broad, preliminary way, and showed experimentally that at least some common aspects of the craft rested on an objective physical basis. And such, indeed, is the general belief to-day.

Psychological factors, however, may also enter into the involuntary neuro-muscular reactions that control the movements of divining rods, pendulums, &c.; though such reflexes are, in genuine radiesthesia, primarily attributable to the influence of certain rays and/or fields of force thrown out by all manner of objects: particularly moving water, h.t. power cables, pipe lines and other elongated, or well defined, electric conductors and sudden discontinuities in the immediate physical environment.

But psychological factors, (2) though undeniable (especially in imaginative, suggestible or hypersensitive subjects), will not be discussed in this paper, which is restricted to physiological and instrumental responses, that may be attributed to direct action by certain geophysical factors.

Such phenomena are best investigated by orthodox physical methods of experiment, instrumentation, hypothesis and methodology; thus leading to practical routines, devices and theories that give repeatable scientific or commercial results of value to the modern world. Hence my own devotion during 20 years of often perplexing, but always interesting and remunerative, effort in field and laboratory, to help solve the radiesthetic conundrum.

Practical Results

The outcome of all this labour, despite the usual official gibes and discouragement, has been to convince a fair number of critical observers, including numerous scientific and technical experts, that dowsing and, probably, also its more elaborate electro-medical and analytical offspring (3) can be fairly interpreted in radiological terms, backed up by progressive instrumental techniques. And the whole-time application of such ideas to various commercial and military problems since 1938 has satisfied me that modern field dowsing may properly be termed *radiographic prospection*. For the entire technique, to be described below, is radiological in conception and operation.

A number of the basic facts have now been checked by other engineers and physicists, and the various methods and general routine to be outlined have been successfully employed at home and abroad by several other expert dowsers. But my own field work alone provides several hundred survey reports and forecasts of yield, depth, &c., the majority of which have been checked by actual borings, pump tests and logs of strata. These show some 90 per cent. success in detail in the best districts and under good conditions of weather (discounting extreme drought or untoward mishaps during well-sinking), or, at worst, about 35 per cent. accuracy under very adverse circumstances of geology, weather, &c. Even so, the fact that forecasts within 1 per cent. of true depth and 10 or 20 per cent. of actual yield of water are often made at difficult sites in unfamiliar surroundings, without any pre-information, and frequently where other nearby wells or bores have been complete, or almost complete, failures, is no less highly significant. Quite often this happens when geological forecasts have proved adverse or misleading; so that money can be saved on fruitless sinking by means of scientific dowsing, as well as stronger, shallower or purer supplies reasonably assured on other occasions (4).

Basic Facts and Propositions

My work with Franklin and others of the B.S.D. involves no schism or discontinuity from that of other British and Continental investigators, such as the modern French school, de Vita, Pericas, von Pohl, Dannert, Creyke, Pogson, Budgett, Merrylees, Trinder Applegate, Tromp.(5). When reduced to physical or physiological essentials, discounting obvious misinterpretations and divergent explanations of similar facts, the critical student will be able to unravel a common thread and many repetitive facts and ideas (largely radiological) in all such work; and the scope and basic coherence of the subject steadily grows from year to year. Nor is it necessary to reject the core of traditional dowsing. Far from it; for all sound modern work is based on, and still continues to utilise, many of the traditional methods and ideas, including the simple forked rod (now usually of whalebone), as providing an extremely reliable indicator of one's muscle reflexes.

The chief physical facts, as I see them, to be realised are :—

(*a*) that *all* matter appears to radiate weakly and with (?) somewhat varying intensity, in terms of an etheric wave radiation, covering a wide range of frequencies that are specific to different materials, and determined by physico-chemical constitution—notably, atomic and molecular weight. (6).

(*b*) that *moving* water, electrons or other masses of matter create an additional and relatively intense electromagnetic field of the " electronic " or " radionic " type, that we may call the *flow field.*

(*c*) that certain irritable living tissues and unstable chemical compounds, including human nerve-muscle systems, react reflexly to such field and rays, which can also be confirmed instrumentally when their distribution and *modus operandi* are understood. (7).

The first of these facts has lately begun to be realised by orthodox physicists in other connections, thanks to experiments with gamma rays, &c. (Barkla and Moseley), the modern cyclotron and in relation to atomic physics generally. The second and third have long been known to sensitives, such as dowsers, as well (indirectly) as to advanced physiologists and parapsychologists, though they were, heretofore, not fully or impartially investigated.

Application of the New Knowledge

Once these facts have been witnessed—as they can be by any patient, unprejudiced observer—it follows that they can begin to be applied in fields or laboratory practice to the detection, localisation and analysis of various invisible or unidentified targets. And this is simplest, at first, for running water, h.t. electric cables, radioactive bodies, moving military targets, &c.; the patterned fields that result in space-time being fairly sharp, strong and instrumentally recordable.

In such cases, the form, intensity and undulating reaction band spacing can be shown to be proportional to mass, velocity,

dimensions and electrical energisation of the various objectives. Horizontal and vertical distances also count ; so that, for example, depthing below ground is possible, once one understands the technique and general theory, as well as vertical location, direction finding, approx. magnitude (or yield) and even general constitution (or quality)—which is related to frequency and waveform of the emergent radiation, in so far as specific syntony is attainable.

Some of these problems and features have already been outlined in my books and papers (see terminal references) ; and other dowsers or dowsing investigators, such as Colonel K. W. Merrylees(8)—with many of whose general remarks I heartily agree—have already emphasised some of the main facts of water divining. But I propose to discuss various important physical factors (too often discounted) before proceeding to a short outline of my own routine field-survey methods. Otherwise the latter would lack theoretical foundations.

Disturbing Physical Factors

Probably no other single factor upsets dowsing so much as the weather, when it is stormy and unsettled ; isolated, electrically charged cloud masses, with their associated rising columns of damp air and subjacent electrostatic and ionisation effects, being capable of causing violent local fluctuations of intensity and also polarity (or phase state ?) of the serialised reaction bands of a radionic or dowsing field, as well as general perturbation of delicate instruments and animal physiology. In short, not only are external conditions then unsteady and vacillating, but the inherent behaviour of detector mechanisms of whatever kind also becomes very unreliable. And this is often the case on stormy afternoons in, say, April and mid-summer. Wet gales, likewise, are most disturbing : hence the painful reactions of weather sensitives.

Unfortunately, despite continued attempts over several years, no sure means of screening off, or else damping out, such intrusive meteorological and geophysical influences has yet been found, that does not also exclude too much of the (usually weaker) fields or rays under immediate investigation, or else desensitise the dowser or other detector too far for useful working. And the same remarks apply to other sources of local interference, such as magnetic fields, h.t. cables and transformers, radioactive bodies, big flows of water, moving traffic and aircraft, or even emotional human bystanders.

In my opinion, therefore, and pending any final solution of this problem (which may prove insuperable), *it is best simply to avoid such interference or perturbation by careful choice of time and place.* Then, and then only, results of quite another order may be got by the skilled operator who also understands his subject.

FIG. 1.—Tape record, new " radio-electrometer " (Maby), showing pulsatory disturbance of general radionic field by a *sudden overcasting of the (already lightly clouded) sky* during a period of four minutes, following " quiet " and settled conditions. 10secs. time intervals shown below tracing.

Note irregular pulses of energy (mainly " positively " polarised :—upward tracing, corresponding to clockwise deflection of radiometer or dowsing pendulum) of mean frequency 3-4 per minute, with straight-line tracing before and after the disturbance. Two superimposed artificial impulses at xx—xx.

Similar irregular pulses are caused by moving storm clouds, massed road transport (at short range), &c. ; frequency and wave form, if repetitive, depending on dimensions, relative velocity and spatial separation of the moving objects, which need not be metallic or electrified.

At such times of widespread (*e.g.*, meteorological) or strong local disturbance, that is difficult or even impossible to screen off or damp out, dowsing and other radionic readings get confused. " Quiet," undisturbed periods are, therefore essential to accurate work and clear records of special local effects of the types shown in figures 2-7, as explained in main text.

FIG. 6.—Electrometric tracing (as above) showing irregular response caused by switching on a weak *Hertzian signal generator* (" condenser " field between two plates electrode 6 cms. on either side of rotor of electrometer), oscillating at 30 Mcs., when the general and local field was all quiet and no deflections occurring. 10secs, time intervals shown below tracing.

Note that oscillator was switched on (with signal) at first arrow near left end of tape, that signal was switched off at the second arrow, and the whole oscillator switched off at third arrow near right end of tape ; after which the radionic disturbance faded out completely again.

About two main pulses or " beats " per minute result, with initial response commencing instantly, but not reaching peak strength for about 5secs., owing to an electro-mechanical time-lag, corresponding to the physiological time-lags in dowsing, &c.

All such electrometric responses appear to depend on some sort of *beat* between two or more " radionic " signals, whether artificial or natural in origin : in this case, an artificial Hertzian signal pitted against generalised " background " radiation of cosmic or, perhaps, ionospheric origin of some 10m. wavelength—which appears to be the main source of energisation in field dowsing. And the instrument will give similar responses at various selected frequencies against the main broadcast (*e.g.*, B.B.C.) signals when reception is good, using a laboratory signal generator to create the " beat " or heterodyne effects in question. Physiological responses by the " radio electrometer " also appear to depend on this fact.

Otherwise, endless time and labour can be wasted without achieving any consistent results that would pass sceptical scientific scrutiny on a statistical basis. And similar remarks apply, I believe, to experimental telepathy and clairvoyance—in their simpler aspects, at least: it being only too easy to get all the "signals" jammed or bemuddled when strong local electromagnetic interference exists, whether of atmospheric, geophysical, cosmic (?), physiological or artificial origin.

NOTE.—Some tests I have made on such lines indicate that, granted the right (quiet, harmonious and unprejudicial) experimental conditions, it may be possible to score almost 100 per cent. correct with good subjects over short time periods. But fatigue or boredom are enemies, as in radiesthesia. Keen attention, freshness, quietude and confidence are all-important in all sensitive psycho-physical work.

The hopelessly disturbing effects (cyclical pulsations) of on-coming storm clouds are well shown by this first tape record from my new "radio-electrometer"(9), which seems to detect radionic or dowsing fields excellently. (Fig. 1). When no such external or intrusive fields are acting the electrometer shows no deflection from zero, and the ionisation counter I used to employ then also ticks away almost as steadily as a clock; though its responses, too, get thrown into pulses of the same average frequency and wave form when similarly perturbed. So that the most crucial tests are always made when one has very still (foggy or clear) anti-cyclonic weather, and no local movement, high wind or magnetic disturbances; *e.g.*, the automatic tape records obtained by T. B. Franklin and myself for the Air Ministry and others during the War, in respect of the so-called FRABY responses of such instruments to large moving targets, that represent a special aspect of the *flow field* phenomenon already cited. (Figs. 2 and 3).

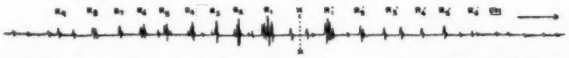


FIG. 2.—Tape record, modified ionisation counter (Franklin-Maby), giving directional response to moving targets, &c., showing typical effect of *solo automobile* (slow, heavy lorry) as it approaches and recedes from the detector. Note grouped discharges of the gas-filled counter tube at approx. equal space-time intervals, increasing in mean amplitude and number as distance decreased, then decreasing as the target receded again. But such effects can be better shown by either a later form of detector ("Fraby"), that summed up and smoothed out the individual impulses, or by drawing subsequent distribution curves, as in figs. 3a and 3b.

The successive group discharges correspond to radionic or dowsing reaction rings (concentric around moving objects), termed R^1, R^2, R^3, &c., both as to relative amplitudes (field intensities) and space-time separation; in this instance, about 70-80 yards and a few seconds of time. There is normally a double interval as the target passes vertically overhead or at close range, representing the diameter (instead of radius) of the first R^1-R^1 ring. This appears near the middle of the present record, which was taken under ideal conditions in a quiet vicinity and settled (clear) weather. Air Ministry and other official observers confirmed these effects, granted good conditions.

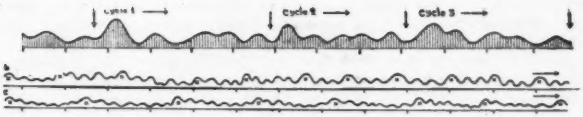
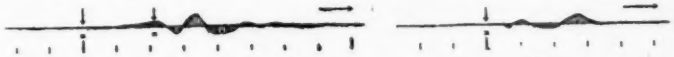


FIG. 3.—These three tracings represent hand-drawn redistribution curves of parts of records by the "Fraby" detector (see last item) referring to cyclical pulses created by a *heavy bombing aircraft*, a *fast fighter aircraft* and a *slow ammunition railway train*, respectively. 10secs. time intervals shown below tracing.

Note repeating wave cycles, with maxima at every fifth, third and seventh pulse, respectively; also that the middle record (fighter plane) shows a change from a five-wave to a three-wave cycle at mid-length—possibly due to change of course or some superimposed interference. But the distant railway train caused a typically steady seven-wave cycle, with a well marked max. at each seventh wave, then dying away steadily for the next six pulses.

Broadly speaking, such records, when ideal, individually typified various specific moving targets. When there was no local movment of clouds, aircraft, road vehicles, pedestrians, &c., within the pre-set range of detection, and electromagnetic conditions were "quiet," the ionisation counter ticked away regularly at a low level of response, owing to a generalised background of cosmic and telluric radiation of a penetrating nature. By pre-setting the response threshold (various ways) this background "mush" could be discounted and only the "radionic" or "dowsing" factors examined and recorded.

There is also less danger in still, settled weather of inductive pick-up of energy by the human body or exposed parts of any electric detector; and human bystanders are, as a rule, also more relaxed and composed at such times, thus cutting another source of interference. But I must not waste more time on these important and very interesting effects, except to add that several years of almost continuous observation with the ionisation counter, a special radio detector and the "radio-electrometer" have satisfied me that *oncoming storms* (wet gales, thunder, hail and snow storms), which create general malaise for us all, and the onset of painful symptoms in invalids and radiesthetic sensitives, are fatal to good work in this subject. So, too, are *emotional human bystanders* and various forms of *electromagnetic apparatus*, each of which throw out powerful local fields and pulsatory effects. (Figs. 4 and 5).



(a) (b)

FIG. 4.—These two tapes, taken with the new "radio-electrometer," show the remarkable "*psycho-radiant*" *action of the human body* when in a state state of emotional or muscular stress. 4a is the instrumental response, at a distance of 70cms., without any electric contact (etheric wave radiation), when the emotional human subject, who was in a prior state of suppressed excitement and anticipation was given a *sudden* (*verbal*) *psychic shock*, thus releasing the pent-up nervous energy; though no bodily movement occurred.

Note gradual build-up to point of stimulus (arrow) and damped sine wave response, with about 15secs. intervals between peaks of waves. (Fundamental to this work). 10secs. time intervals shown below tracing.

In the other record, 4b, a *sudden alarm bell* (non-electric) causes similar reaction, though without the preliminary build-up and less intensely. Again no direct electric contact, but subject (insulated) at 70 cms.

FIG. 5.—In this case, after a prolonged " all quiet " period lasting several minutes, with straight-line tracing by electrometer pen, the observer suddenly *imagines* as vividly as he can that he has approached the instrument and placed one hand vertically over the rotor—at moment shown by arrow. The response commences after about 5 secs. and reaches a max. after about 15 secs. 10 secs. time intervals shown below tracing.

The similar effect of actual *mechanical contact* with the instrumental electrode (also R hand and " positive " response) is shown by the last three pulses on fig. 1, when the observer attempted to superimpose a bodily effect upon the meteorological one. (See above).

These effects have every appearance of being *electromagnetic*, and there is no evident correlation to ordinary factors, such as sound, heat, light, air pressure, humidity or even simple magnetic or electrostatic fields, as numerous detailed tests and concomitant readings have demonstrated. (See refs. 6 and 7).

In the case of the human psycho-radiant phenomena, I find that an imaginative person can project energy capable of affecting either the radio-electrometer or a radioactive preparation in conjunction with a Geiger counter without any bodily movement or even invisible muscular tension, and that over distances of many yards; also by visual concentration alone—which creates a beamed effect of opposite polarity from the R and L eyes, as also from R and L hands. (Refs. 3 and 9). Direct electric contact is quite unnecessary, though also effective. And the hypothetical rays can be reflected, refracted, absorbed, polarised, &c., in a way that suggests electromagnetic waves, that almost certainly lie in the *micro-Hertzian* region of the spectrum, between the ultra-short wireless waves and the infra-red—as other invetigators have also surmised. Various screening tests indicate that they cannot be visible light rays, ultra-violet or even heat rays, and nearly all reaction is stopped by quite thin, but continuous (no narrow cracks, N.B.) metal screening, also by $\frac{1}{2}$ mm. mesh wire gauze; though, for very powerful radionic fields (as from streams, aircraft, cloud masses, &c.) it seems that some highly penetrative component, possibly in the gamma-cosmic ray class and capable of acting upon unstable atomic nuclei, still gets through even thick metal screening and damp or mineralised earth strata.

But there is also evidence of the importance of *conducted ground waves*, from my electric oscillation and bomb location tests. So, what with radio waves that get through chinks and round corners, and electronic oscillations and " modulated carrier waves " that

get conducted through many media and re-emerge as " aerial " waves, the situation is complex. Moreover, dowsers themselves respond to so wide a selection of rays and fields (including at least Hertzian, blue-violet, ultra-violet and gamma rays, in that order of increasing effectiveness, I think), that *human detectors* are hard to use in the laboratory. Add " psychic " faculties and auto-suggestion, electromagnetic induction, aerial ionisation, sonics and ultra-sonics, and even static potential effects, and one is properly in the soup! *Instruments* are at least less catholic in behaviour and more controllable. They can, now, also be made practically as sensitive, in most instances. But excessive sensitivity opens many booby-traps, and multiple factors keep cropping up, that are extremely hard to sort out.

For instance, Franklin and I satisfied ourselves that an underground stream will create quite well marked, if subtle, local fields in terms of earth potentials, magnetic anomalies, aerial ionisation, Hertzian signal reception, photo-electric and radio-active effects, as well as by causing two sorts of (rod or pendulum) dowsing reaction, *with clockwise or anti-clockwise deflection or rotation of the new " radio-electrometer," corresponding thereto, on the " R " and " N " bands.* Yet the main effect on an ordinary dowser appears to be *via* his limbs, *acting as dipole aerials in a polarised radio field, by electromagnetic induction in nerves and muscles, which then respond reflexly.* Nor is this reaction at all insignificant, as dynamometer tests show. The same force, acting on the " radio-electrometer " also builds up very considerable energy when given suitable, resonant conditions, and it shows what one may call bi-polarity, directional effects, horizontal and vertical components, and the various field zonations, just as found by dowsing.

Effects of Motion and Flow

Apart from moving cloud masses and flowing water, it is now clear that what one may term *the flow field* is attributable to any mass of matter in motion relative to the physiological or instrumental detector; though good conductors and objects with flowing or oscillating electrons may be especially reactive. And mass and velocity both count, apparently: small masses of relatively high velocity creating less response than the reverse, though a reaction-time lag and some sort of " saturation " factor may also enter the picture. The orientation of the detector unit and/or its " antenna," relative to the position of the target and the plane of polarisation of any resultant wave field, is also all-important.

But, granted constant orientation of the detector system and constant sensitivity (which many factors, including weather, may alter), radionic and dowsing responses normally occur serially and repetitively in equidistant zones, termed reaction (R) bands;

whether concentrically around a small, compact or else vertically elongated object, or else in parallel either side of a long horizontal conductor, such as a stream, pipe or a cable. *And these seem to be the positions in space-time at which either two sets of beating waves get into phase, so as to create peak field strength* (Fig. 6), *or else* (Fig. 7) *when the plane of polarisation of the field is parallel to the aerial or other pick-up device*—thus depending on its orientation, N.B. For in the case of stream fields, at least, the plane of polarisation seems to rotate through 180° from one parallel R-band to the next.

FIG. 7.—Automatic responses of the new "radio electrometer" to radionic energy picked up on the *dowser's reaction bands* (see horizontal lines and vertical arrows at R_1 and R_2) by an exploratory aerial (vertical loop, orientated parallel to the reaction bands) in relation to *a dipole electric oscillator.*

Note zero response (straight-line tracing) between bands, with twin-peak reactions of relative amplitude and spatial separation at the dowsing R-bands corresponding to what was found independently at the same locations by a skilled dowser. No suggestion of psycho-radiant effects implicated.

In this case ("electronic" bands) the zones are 120 cms. from centre to centre, and the second one is approx. half as wide and strong as the first, as is found in dowsing practice, but futher serialised waves are not shown. The source of energy (equivalent to a small stream) was at R_1 near right end of tape. 10 cms. space intervals from objective (at R_1) appear below tracing.

The twin-peak effect seems to be typical of a "negative" phase state of the radionic field. When it is "positive" the two waves merge into a single larger one—as indicated both by dowsing and instrumental records.

As storm cloud masses, like aircraft and other moving vehicles, may be surrounded by concentric shells of reaction at certain critical distances—running in repeating wave cycles of 6 or 8, typically rising to a maximum at every 3rd and 6th or 4th and 8th wave (a curious law that many instrumental records show to hold throughout the subject)—it is inevitable that they should cause serial pulses in space-time of the kind indicated by fig. 1. And such gross disturbances inevitably mask more local or special effects that one may be seeking in field or laboratory.

The worst perturbation is, therefore, created when a cloud mass is shortly approaching or passing away; and the worst physiological depression (with headaches, gastric upsets and general irritability) and the most "damped" instrumental effects tend to occur when a large electrified cloud hovers just at one of these critical distances from its periphery, but cease dramatically as soon as there is movement one way or the other. Both physiological and instrumental disturbances fall off sharply when the storm has broken overhead and the sky becomes generally overcast (or clear again). But the R-band undulations persist for a great distance either side of a really big flow of water (often

hundreds of yards) and, in space-time, either side of a moving storm centre, say. Indeed the first ripples can be sensed and recorded several hours before, in clear weather, for a distance of, probably, one to two hundred miles—even before the barometer begins to fall.

Methods of Detection

Passing over many important physiological and geophysical sources of error or complication that beset the serious dowser or radiesthetist (as listed by myself and Prof. S. W. Tromp: refs. 1 and 5), such as fatigue and ill-health, faulty technique, local electric or magnetic fields, geological discontinuities, &c.; a few words must next be said regarding instrumental and physiological detection methods, sensitivity and selectivity. All this may seem complicated and tiresome to the non-scientific, amateur dowser, but the sum of modern experiments and field tests indicates that we are now fairly near the truth of the matter; nor, of course, does it turn out to be at all simple, unfortunately.

Firstly, we have the human sensitive and his neuro-muscular (and other) organic reflexes. Traditional diviners and electro-medical men of the Abrams school have no use for mechanical instruments, beyond the simplest myoscopic indicators, such as rod, pendulum or "motorscope." But accurate quantitative work requires the addition of dials, linear scales and (indoors) screw-gauge, vernier methods—as in the various diagnostic machines, Dr. W. E. Boyd's "Emanometer" technique, or my own work on linear "beat wavelengths" and "fundamental rays" (Ref. 6). And from this it is but a step to begin to apply purely instrumental detection methods, once a few physical clues have been found. (See ref. 7).

NOTE.—Of these, so far, Franklin's long-wave *radio receiver*, for pipes, cables, ore bodies, steams, &c. (described in *B.S.D.J.*, 8, 1935); Hertzian short-wave *trans-receiver* sets of the type of the American "Metalloscope"; self-recording *ionisation counters* and *electrometers* of the kind used by de Vita Budgett and myself (among others); *earth potential* and *resistivity* methods; and, finally, the "*radio-electrometer*" (based on that old toy, the rotating paper cylinder and the Baraduc non-magnetic needle, &c.), that I am developing (see ref. 9), seem to me to be the most useful in the field.

But all these instruments are very delicate, not readily transportable, and need open ground and settled weather. They may also fail to discriminate between different types of objectives at short range, and are useless at long range or in deep strata—specially short-wave sets and megga-meters, &c. They are, however, invaluable for detailed work on certain occasions and for scientific experiment: to check up on the dowser and to graph a selected field more accurately (using many traversals and a distribution curve) for theoretical reasons. And it may one day be possible to devise something more portable and fool-proof, once these problems are fully understood.

On good days and occasions, several of the available instruments will give clear indications (Fig. 8), granted a skilled operator, provided the general routine outlined below is followed, as for

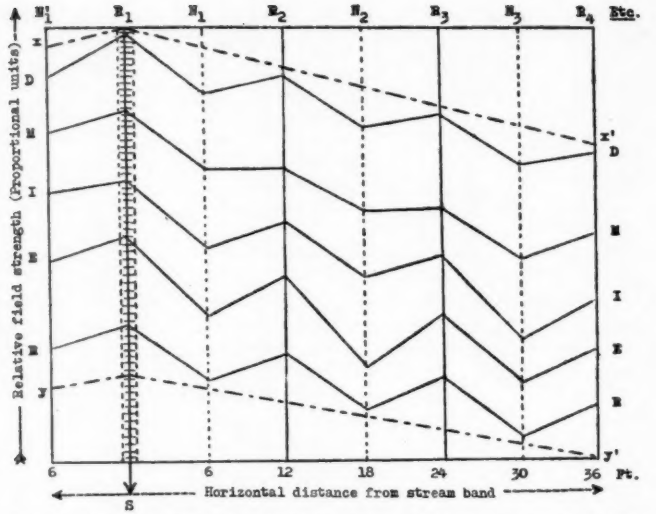


FIG. 8.—Graphs showing undulatory nature of electro-magnetic field of a small underground stream (approx. 100 g.p.h. at 50ft.) in relation to the serial reaction bands (R_1, R_2, R_3, &c.) and intermediate "neutral" zones (N_1, N_2, N_3, &c.).

The averages of several hundreds of numerical readings are given, taken between 1936-38 in varying weather and at different times of day and night. But fewest in number were the radio (Hertzian signal reception strength) readings, and most numerous the physiological dowsing ones. Owing to the time taken and the need for fairly quick traversals, readings were taken only at mid-R and mid-N in many instances, so that the smooth sinusoidal form of the field curves is not shown in this case. Averaging of results also tends to smooth out the R/N distinctions and the central peak over the stream itself, at S, that are often far more pronounced than here appears. But the general undulatory form of the field is preserved convincingly. The mean decrease of field strength with horizontal distance is indicated by the chain-dotted lines, top and bottom, and the width of the actual vein itself by the shaded band, R_1. Only part of the entire field of manifestation, and mainly on one side, is shown.

Note the remarkable parallelism of the (proportionately reduced) readings by all five detection methods, and the nearly perfect progression of the two uppermost and the bottom graphs. The other two (ionisation counter and earth potentials) were no doubt disturbed by electrical irregularities of the soil and subsoil or certain atmospheric factors.

- D Reactions of skilled *dowser* (before any instrumental readings), using a form of myometer.
- M *Magnetic* H intensity, by swinging needle method.
- I Intensity of *ionising rays* (hard gamma to cosmic), by screened Wynn-Williams type ionisation counter.
- E *Earth potential* difference between R_1 (mid-stream) and given station on a parallel zone, by spike earth electrodes and microammeter, &c.
- R Hertzian *radio reception* signal trength, with frame aerial parallel to the stream band—as in the case of the dowser's arms and reactions in (D).

simple dowsing. But it is even harder to discount intrusive factors instrumentally than physiologically, especially where metallic objects, h.t. power cables, flowing water in pipes and brooks, radiocative deposits, &c., are concerned.

For, even where he cannot actually screen off unwanted rays or fields, the human sensitive can utilise " mental orientation " (i.e., attention focussed exclusively on a single type of object, be it streams, cows, aircraft or buttercups, say) amid a welter of interlacing and confusing sensory stimuli: a faculty that is also achieved by certain selective instruments, such as the modern tuned radio receiver, not to mention the electronic " brain." Indeed, the best dowsers can to some extent syntonise themselves to pre-selected radio frequencies and waveforms by means of matching " samples " or " witnesses " of the given substance, held against a reactive muscle or nerve centre; thus giving markedly increased response to rays of like kind. (See ref. 6). But there must not be any other very powerful radionic or " electronic " source of stimulus superimposed (see above), including emotional human beings, or the results tend to get confused. But the same thing is true for other occupations. Thus, one cannot paint a picture in a motor-car, appreciate good music in an engineering shop, or perform juggling feats during an earthquake or air raid. So, too, the dowsing arena must be free from angry bulls, tugging children, men with road-drills, housewives with vacuum cleaners, medicos with radium, X-ray or electric therapy equipment.

As for human bystanders, the fact is that they continually emit short electric waves (the " psycho-radiant " effects in Cazzamalli's and my own and A. H. Reeves' work) while in an *emotional* or even simply *interested* (see electro-encephalograph data) state of mind. Such extraverted emissions are picked up reflexly both by sensitive dowsers (and others) and by several special electric detectors. An emotional dowser may, perhaps, also act as his own trans-receiver, by a radio-reflection and interference technique, analagous to that of bats (with air waves) and radar (with Hertzian waves). Hence, possibly, his stronger results, not to mention physical depletion.

Apart from that, there appears to be no magical gift involved in dowsing, radiesthesia or even simple e.s.p., other than much patience, skill, practical experience and a logical, self-critical mind; though individuals vary widely in sensitivity. The beginner, however, whether scientist or otherwise, is like a small child, whose attention is far too readily distracted by side issues and false trails, and whose senses are too acute; and this also applies to many sensitive modern instruments, when applied to these problems. *First, therefore, one must learn to abstract, concentrate, syntonise and even de-sensitise oneself or one's instrument. Otherwise, all may result in confusion and*

bewilderment. Lacking detailed knowledge of the various fields and factors involved, plus much determination, caution and self-control, no dowser ever gets good practical results at the outset (apart from an occasional fluke), and no investigator manages to see the wood for the trees until he has learnt some " jungle law " by long and bitter experience. For both practice and theory are far from simple.

SURVEYING FOR SUBSOIL WATER

The following outline account describes a reliable basic procedure, which may profitably be adopted by the professional water diviner who is prepared to accept a few simple modern extensions and standardisation of the traditional craft, and which is suited to any limited area of ground not specifically chosen on account of geological or topographical features. This routine was gradually evolved, by trial and error, out of earlier accepted methods plus the findings of Creyke, Franklin, Trinder, Pogson, Merrylees and myself, assisted by numerous friends and students, who have kindly tested these methods for themselves during the past 15 years.

I have tried to avoid all personal foibles, adhering to fundamental principles and the simplest tools; viz., two or three standardised whalebone rods of different reactive quality, a dialled " motorscope " (or " tonometer "), for getting reaction strength and flowfield, some pegs, a tape measure, note book, pocket altimeter, compass and a small h.t. induction coil (with earth spike and aerial), for artificial energisation. Additionally, a strong bar magnet (folding in half for self neutralisation), a few selected water and mineral samples, a swivelling angle rod and a portable ionisation counter are also useful. In short, still the simple outfit shown in the frontispiece of *The Physics of the Divining Rod.* (Ref. 1).

But no two sites are ever exactly alike, even at quite close quarters, and individual dowsers will adopt personal variants of technique that I need not discuss here. But I believe that all would benefit by the adoption of some such routine and standardisation, in so far as they do not already happen to have arrived at similar conclusions.

Location

1. Where smooth roads or fields are available and the acreage considerable, one may first make by car several slow (10-20, m.p.h.) straight traversals in two directions at right angles, dropping markers wherever really strong and persistent dowsing or instrumental reactions are obtained, provided these do not obviously refer to surface streams, pipes, electric cables, rails, &c. If such zones happen to run exactly parallel to the latter, with

serialised parallel bands on either side, they should be rejected. But, as most brooks meander, whereas good underground veins run very straight (if properly dowsed), and electric cables, rails, &c., are normally visible, also transformers (which throw out four radial cardinal beams for considerable distances); and as pipe lines can be ascertained from the landowner, the situation is not usually too bad—except in urban areas, which may become almost hopelessly involved.

Preferably, two or more such parallel traversals are made in each direction, especially in wide areas. Then the strongest points of reaction are finally selected for detailed examination on foot, and the associated reaction bands joined up by pegs or on a plan, as described below. This initial work saves much needless labour and time; it also tends to eliminate the weaker veins and parallel "image" bands that cause beginners so much bother. But if a car is not handy, the same thing is done quickly on foot, using either an insensitive (say, flat-section) and stable rod, angle-rod or the "motorscope" (held nonchalantly and lightly, crank arms horizontal). And this preliminary selection of only the strongest zones and actual primary, or "vertical," bands of undergound veins, &c., is as skilled a job as it is essential, if one is not to get led astray by the "image" bands, &c. But I cannot say more about it here. The rest is a matter of long experience and field training, that is hard to describe briefly; and there are times (*e.g.*, very fine weather) and places (very dry or contrasting intermediate ground or near to strong flows and cables) when and where the parallels can be very strong and misleading to a novice who does not know all the tricks of the trade. Also wide zones from big flows, &c., may give the initial impression of double or triple bands, *so that centreing exactly at mid-field is vital.* However, these wide triple reaction effects are the ones to aim for, and can be got well in a slow running car, I find.

Granted freedom from complications, such as occasional criss-crossing veins and fissures at two or more strata levels, it will normally be found that more bands are crossed by one set of traversals than by the other, roughly at right angles to them. If it is a small site, only one, two or even no veins may be encountered; in which case, operations may have to be extended beyond the client's initial boundaries.

2. Keeping to open ground, away from wells, springs, cables, &c., the appreciable width and reaction strength, by rod and "tonometer" of each promising band are next measured, and instruments, such as Franklin's radio detector, de Vita's electrometer, my own portable ionisation counter or new "radio-electrometer," can be applied to check dowsing reactions, including the lie of the vein or other long conductor—each motion being performed precisely as with the rod.

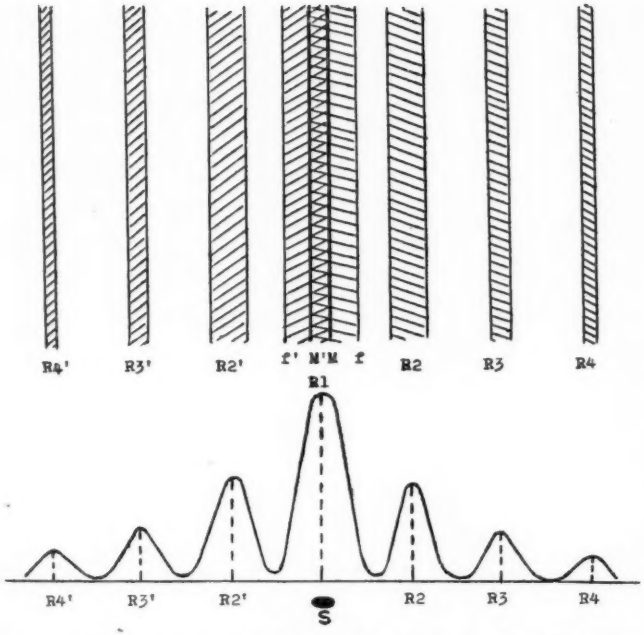


FIG. 9.—Plan view of serial reaction bands of an underground stream or piped flow of water, as determined above, together with smoothed graph of typical field of same when examined numerically by dowsing or instruments. (Stream S at mid-R_1 band).

Note peak of field at mid-R_1 over objective, and progressive fading in relative intensity of whole field and successive "image" bands or "parallels" as shown by appreciable widths of same and amplitude of reactions thereto. Depthing bands (D_1, D_2, &c.) and concentric rings around vertical conductors behave similarly. See main text.

MM′ are margins of actual vein or pipe; ff′ margins of flow field, measured on the central R band, to determine yield.

The outer margins (ff′) of the whole flow band (fig. 9) are first carefully determined by cautious approach from either side, using a standard sensitivity setting of muscles or instrument. Then the middle of the zone is explored with a more sensitive, triggered setting, preferably with a water sample (distilled) in hand, and slowly side-stepping with tension on inside arm. If an actual median vein, pipe or fissure lies at the heart of the collateral flow field (ff′), it will be detected as a fairly sharp and narrow double line (MM′), which must be very accurately centred up from either side. This should be the "verticals" from the object itself, as distinct from the superimposed flow field, the

spread of which depends on actual *potential yield* of water, but is absent if there is no flow.

NOTE.—The central (MM′) reaction is often missed at first, being only a small auxiliary kick on top of the flow band, which also reaches a peak at mid-field. Both effects can be checked by "motorscope," walking slowly across the bands with muscles relaxed, forearms horizontal; arms of the crank *horizontal*, dial vertical, pointer starting at zero, backs of hands upwards to get the build up of the ff′ field; arms of crank vertical, backs of hands facing outwards to get the outer edge and MM′ effects only. And, with due practice, the increasing and decreasing reaction, corresponding to dip and rise of a balanced rod, can be noted as one comes onto and then goes off the R-bands. So that, if the whole zone is of appreciable width, one should get a triple or even a quadruple rod reaction—the well-known dip-rise-dip, or contrariwise. But should the whole ff′ band be less than five or six feet wide, and the motorscope reading proportionately weak, yield prospects are poor. It is either a very small flow, or one is only on a "parallel." *In any case, sinking must be done exactly at mid-field, on the* MM′ *line.* Many country diviners fail to centre properly, and bores or wells miss their targets, or only draw a little seepage water laterally, by being sunk on either edge of the collateral flow field, ff′.

3. To make sure that once has picked the primary, central band of the whole undulatory series, four tests are possible:—

(*a*) From a little distance either side of the selected zone, thought to represent a stream, pipe or what-not—one points slowly around the compass with the rod or other directional detector, using a firm grip and not too sensitive setting ("sample" in hand, if there is no electronically active flow field in question), impartially awaiting the strongest pull or response. This one does both clockwise and in reverse, usually obtaining a directional fan of reaction that should point towards the source of radiation in question, as in normal radio-direction finding. If there is a strong field (depending on magnitude, distance, reception conditions and sensitivity setting), the fan-spread will be wide; if weak, it will be narrow. In all cases one bisects the angle subtended to get the true d/f line on the target—which will be perpendicular to the long axis of a stream, pipe or cable, say. If, after doing this several times from either side of the supposed target, one always gets reaction *towards* the latter, all is well. But if, one side, the maximum direction points *away from* the zone under investigation, then one is on a parallel only, and must proceed in that direction to find the primary zone itself.

(*b*) Make sure that the selected band has a total width about twice that of the first parallel on either side (see figs. 7 and 9). The relative widths and intensities of the successive R-bands (R_1, R_2, R_3, &c.) should decrease away from the primary band in the approx. ratios 1/1, 1/2, 1/4, 1/8, &c., in either direction.

(*c*) The primary flow band, R_1, over the vein or pipe itself should contain a central "vertical" zone, MM′, mentioned above, that may be emphasised by a matching "sample," and which should be absent from the secondary parallels on either side.

The parallel *depthing* bands, D_1, D_2, D_3, &c., however—see below —may also show both ff′ and MM′ effects. So this test is rather dubious in the case of underground streams.

(*d*) On the mid-line of the primary (stream) band, max. response results, if one turns around as described above, when the arms (or directional aerial) are approx. parallel to the line of the conductor, up or down stream, if one uses a firm, not too sensitive setting.

NOTE.—This technique gives one the alignment across country of the vein, pipe, &c. It is also possible to distinguish between an up and down stream reaction in terms of strength of pull, or dip and rise, respectively.

4. When the alignment and course of each main flow have been got in the above manner, also by zig-zagging across them for some distance and seeing that the marked reaction points on the original traversals link together, it will usually be found (if they are deep veins or fissures in master joints of dipping strata) that the lines run parallel and straight for long distances. But in some formations they may give rise to sudden angular offshoots (also mutually parallel); or, occasionally, very shallow flows in alluvium, &c., may wander a little irregularly, following surface topography. And, if the aquifers outcrop along the sides of valleys or escarpments, each supposed stream band should end in a spring of appropriate output and width (MM′) at the predicted level—after allowing for dip of strata intermediately. This is a valuable check.

One should also avoid siting a bore or well on a vein that is liable to pollution by farm, house or land drainage, or that is already drawn upon by a neighbouring well or spring. So that careful tracings, map and geological references, consideration of levels, contours and catchment areas must all be made by the good dowser. And local data from known sources, as to depths, yields and quality, should be taken into account in one's final report—after the field survey is complete—to make sure that they tally with the results of radio prospection.

5. Finally, one or more of the best flows is traced to the most convenient point (it may be a high one, for gravitation, or a low one, to reduce cost of sinking, or near to buildings or by a field fence, to prevent wasting good land), taking into consideration all the above facts, plus ultimate costs, daily or hourly requirements, proximity of electric or other power, &c. And final centreing and depth, yield and quality estimates are then made again, if they had not already been made elsehwere, nearby.

NOTE.—The positions and relative amplitudes of the serial R-bands, their alignment, &c., can be all checked by several instrumental methods, given time and patience and good local conditions, if engineers or science so demand. But dowsing alone is perfectly satisfactory. The depthing (D) bands (see below) can also be checked, but there are complications (see ref. 1) that cannot be discussed in this short paper. "R-band" is used (fig. 9) as a portmanteau term, but it seems that the flow (F) and depth (D) bands may compound together for deep-seated streams.

Depth, Yield and Quality Estimation

Depth is obtainable in three ways. First, by the old "**Bishop's** rule," which tells one that strong parallel (D) bands of reaction occur (serially) on either side of an underground stream, pipe, &c., at (equidistant) spacings, equal or proportional to the actual depth of the conductor. This is a reliable method, provided one does not get muddled up with edges of the primary flow band (if wide), or the parallel flow (F) bands—that also exist for *shallow* flows, at least—or else with other parallel veins, &c.

Second, there is Creyke's "point depthing" method, which consists simply in setting up a vertical metal rod exactly over the target (he advised *mumetal*, but I doubt its special efficacy), as an earthed dipole that creates a radiographic interference pattern of concentric rings of reaction. And the radial spacing of the latter is again equal or proportional to depth of the first subjacent conductor or main reflecting layer. Their spacing should be measured along three or four radii, and averaged, in case uneven or tilted strata cause irregular or elliptical form.

Each ring of reaction around the "point" may be double, which Creyke inferred to represent the upper and lower surfaces of the aquifer; though Merrylees and I doubt this. In fact, each such band seems to exhibit the MM′ and ff′ effects described for the stream band, if there is a *flow* at that depth. But the depths to the tops of successive strata of whatever kind can also be obtained by an elaboration of the Creyke method, that I worked out; employing an electrically oscillated "point" of about 5-6 feet height, and then carrying in hand different rock samples as one walks outwards. This can give a fair idea of the likely changes of strata and their thicknesses (proportional, if not exact), with skill and practice. But the depthing circles referring to the main water or flow can be picked up without a sample or extra energisation in good weather. Wells, bore-holes and vertical conductors create natural D rings.

As the level of the first reflecting layer (often clay) may not always coincide with that of the flowing vein itself, and as a "half wave-length" or "negative phase" effect sometimes results, care is needed with this method. *Rock refraction by heterogeneous strata may also cause serious deficits in depth on occasion*, though proportional depths are correct, and very precise measures can be got in a single *homogeneous* medium.

Generalised water tables and saturated beds can be depthed in this way, but their yield is a matter of inference from local geological data.

A third useful method (my own "wavelength" one) also consists in electromagnetic interference, and provides a useful check on the depth of the vein or other long conductor itself. A small *horizontal* oscillator, energised by a small aperiodic induction coil, is employed, placed at the middle of the primary flow band

and parallel to it. Sharp, fairly narrow, parallel reaction bands are then created (? " beats " between the air wave and the reflected wave from the subterranean conductor) each side of the stream band. The average spacing of these, which must be accurately measured, is then found to be proportional to depth of the target.

Provided all strata are damp and conductive, the general rule is that, starting with a fundamental beat wavelength of 4-6 feet *in air*, then each increase of 1ft. in band spacing as the conductor gets deeper is equivalent to approx. 20ft. of depth. This simple rule gives good results in many different districts in Britain, but one must be careful to ascertain the fundamental (zero depth) value in air at the given time and place, also to avoid *half*-wavelength rod reactions—which are easily obtained alternately at nodes *and* anti-nodes with a careless technique.

NOTE.—The starting value, in air, varies locally and seasonally, it appears, between 4 and 6 feet, though I made it longer than that back in 1938. There may be a solar factor, for accurate laboratory measurements of the same fundamental " electronic " beat wavelength have shown similar variations between about 120cms. (say 4ft.), as at present, and some 140cms., that I do not think are due to experimental errors. And such values, or else their half-wavelengths of 60 to 70 cms., have often been recorded by medical radiesthetists and others. In any case, instrumental tests (see Fig. 7) clearly confirm the existence and spacing of such " electronic " bands. But there are also four smaller (E) bands or waves of sinusoidal form between each main peak, of mean length 6-8cms. ; every fourth wave being an extra large one, and every eighth larger still. (An Air Ministry test with our FRABY detector showed similar effects on a larger scale for moving bodies, and I have wondered why the R.A.F. chose 60-80cms. metallised strips for radar interference ? Was it coincidental ?).

All three depthing methods suffer from proportionate under-estimation of depth, I find, when heterogeneous strata or mixed wet and dry beds intervene, such as clay and limestone, owing to refraction—as Franklin also found in his work. And he has recommended adding about 1/3rd of the thickness of a clay bed to the apparent depth estimate ; though I often get the Creyke depths as near as 1 per cent., even in mixed strata, unless there in a bad drought and intervening aquifers, &c.

Yield is indicated by the intensity or amplitude of reaction at the peak of the primary (F_1) band, as compared with known flows in similar strata at the same time and place, using master curves. But these reactions are variable—like the concomitant instrumental readings—with weather, &c. And a more consistent method is, I find (as Creyke did), to measure the maximum appreciable width (ff') of the primary band, by rod, motorscope or electric detector, then look up the theoretical yield in a table of values determined experimentally, that have been repeatedly checked in practice.

My own yield tables read from 10 to 10,000 gallons per hour, and they give estimates to within about 10 per cent. of truth in fair working conditions ; though very low and very high yields are always difficult to be sure of, owing to the form of the yield/

reaction curve—as also determined by Pericas and others. One also tends to over-estimate yield grossly in thick clay and, at times, in very dry strata. (See tabulated results below).

Another important point is that the individual flow bands pulsate in width in a double diurnal cycle, according to the Sun position relative to the lie of the conductor or stream, even in still, magnetically quiet weather. However, all that is needed to reduce a band (locally) to its minimum width (about 2/3rds. max.) is to lay a strong bar magnet along the mid-line of the flow. And it is these minimal, stabilised widths that one must use to compute the potential yield of a flow of water. Iron pipes lying nearly N-S automatically stabilise themselves, incidentally.

Again, for shallow or surface flows, at least, the mean spacing of the parallel flow (F) bands either side of the primary zone, can be shown to be proportional to the yield of water, or else to the loading of an h.t. electric cable—which behaves like a stream. The greater the yield or load the further apart the parallels move, as if by magnetic repulsion; their mean spacing from centre to centre being normally approx. 3 times the width (ff′) of the central (F_1) band itself. But these (F) bands are easily confused (see p. 96) with the less "fuzzy" depthing (D) bands when a stream is deep-seated. So one only uses this feature as a rough check. In any case, wide or widely spaced bands without really good peak field strength are to be mistrusted. All methods should tally.

Quality. This can only be guessed at by local and geological inference or else roughly assessed by the use of specific water (or other) "samples," held in the hand to induce a measure of syntony and increased sensitivity when precise frequency matching between "sample" and objective source of the rays exists.

But my work with the late W. H. Trinder, on unexploded bombs and mines during the last war, together with the associated "fundamental ray" and "specific beat-wavelength" measurements (see ref. 6), make it possible to get a very fair idea of general constitution of an invisible objective.

Depthing strata, &c., has already been mentioned. In the case of a flow of water, one measures the appreciable spread of the primary band (ff′) with first one water sample, then another, using standardised samples, such as very pure rainwater (soft), water rich in mineral salts (spa water), water rich in calcium carbonate (hard), organically polluted water (ammonium hydrosulphide is useful), and faintly radioactive water (say thorium salts). *The nearer the matching, the wider the apparent (ff′) width.* But interference by surface contamination or intermediate beds can cause confusion sometimes, though this is a useful and roughly quantitative method and may save much money on boring for saline, very hard or contaminated water.

The table printed below gives the results of certain bores sited by myself and carried out during 1947-48 by Messrs. G. Lines & Sons Ltd.

	SITE	YIELD (Galls. hr.)		DEPTH (Feet)	
	Forecasts and results of bores (Lines) 1947-48	Prediction (for the vein)	Actual total (all beds)	Prediction (for the vein)	Actual w.b.s. (as reported)
A	Luston ..	1200 (Feb.)	1200 (June)	*26-30* and *99-108*	40-45 and 70-76
	Kyre Bank ..	400 (Sept.)	500 (July)	72-90	70-100
	Richards Castle	780 (March)	1000 (May)	33-38	25-40
	Wigmore* ..	1300 (April)	90 (Aug.)	45 & 94-106	45-90
	Brimfield ..	320 (March)	540 (June)	129-138	135-140
	Monkland ..	600 (May) 1600 (Feb.)	600 (June)	43-48 & 72	42-47 & 68-75
B	Breinton Court	320 (Sept.)	350 (Sept.)	60-75	52-61 & 72
	Burghill (1) ..	250 (July)	350 (Oct.)	*80-85*	40-45 & 70
	Burghill (2) ..	600 (Aug.)	300 (Nov.)	95-109	52-110
	Preston Wynne	600 (Oct.)	600 (Nov.)	*165-172*	58-110 & 120
	Dormington ..	1100 (Oct.)	1080 (Feb.)	25-28 & 135-141	(5-6) & 20-54 & 120-140
	Sutton† St. Nicholas	620 (Aug.)	*250* (Feb.)	*140-160*	20-97 (end of bore)
	Holme Lacy‡..	500 (July)	500 (June) *150* (April)	128-130	120-140
	Stoke Edith ..	2000 (Oct.)	2100 (May)	*138* & *184*	30-36 & 100
C	Fladbury§ ..	1100 (Oct.)	*15*(?) (Sept.)	305-320	310
	Kington ..	1100 (May)	800 (July)	45, 90-100	(18-24)&43-52
	Norton ..	780 (Feb.)	500 (Jan.)	150-165	*110*(?)
	Cropthorne‖ ..	1100 (April)	*150* (Aug.)	(60-66)	16-18 & 43(?)

A—Leominster R.D.C. B—Hereford R.D.C. C—Pershore R.D.C.

(1) Possible variations of yield from forecasts with season and with additional static water from upper levels in certain cases.

(2) Depth of flowing vein only usually predicted, which may come in lowest w.b.s. True actual levels sometimes dubious, owing to upper w.b.s. and standing water in bore.

* In Wenlock shale.

† Bore not deep enough.

‡ On pumping, yield later increased to *500* g.p.h.

§ In solid Lower Lias clay. Other dowsers agreed. Not fully tested.

‖ In Lias Clay. Bore not deep enough ? (2 beds).

Some Typical Survey Results

The foregoing tabulation of a few recent results of my own, taken at random from surveys for local Councils, under both good and bad dowsing conditions (*e.g.*, Severn valley clay beds or Wenlock shale), shows both the general reliability and the occasional errors inherent in modern methods. Bad results are in italics: thick clay caused over-estimation of yield, and more than one aquifer caused (by refraction) both that and under-valuation of depth; though more than one aquifer was often correctly forecast at depths that proved proportionately correct. (See notes below the table). Depth and yield were repeatedly nearly right, in good strata and weather, and no pre-information was acquired to influence my mind before the actual surveys. Even taking the bad with the good, it is evident that results were *not* purely coincidental; and I have had better runs of luck elsewhere. (See ref. 4). Private and public confidence are therefore mounting rapidly in relation to the type of procedure I have outlined, though there are good and bad districts for dowsers, as you will now appreciate.

Conclusion

So much, then, for the general situation and prospects for scientific dowsing for water, &c., as I see them to-day. They are, I hope you may agree, distinctly encouraging, though the subject is complex and fraught with pitfalls. Nevertheless, by taking full advantage of modern experimental data, by being cautious and self-critical, and by proceeding logically to collect and assess new evidence, once can both serve one's fellow men and earn a modest living. Furthermore, one can continue to enlarge a fine traditional craft by scientific discoveries of an uncommonly interesting and significant kind. And the same is true, surely, of other radionic and radiesthetic developments.

May I end by reminding you that there will be a *coloured film* (by courtesy of T.R.E. Film Society, Malvern) shown this evening, that illustrates many of the features of this paper; including bomb location and the new radio-electrometer, besides the field usage of rod, pendulum and a small electrical detector?

Further data, graphs and diagrams appear in *The Physics of the Divining Rod*, that will serve to amplify the present paper, but which cannot, unfortunately, be printed with the present outline account.

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3.—*Co-operative Healing*, by L. E. Eeman; Muller & Co., London, 1947 (See Appendix and Introduction by J. C. Maby); "A Note on Dr. Wigelsworth's Pathoclast," *B.S.D.J.*, 52, 1946; "The Drown Method of Diagnosis and Therapy," *Psychic Sci.*, Jan, 1945; "Testing for Radiesthetic Sensitivity," *Radiesthesia*, II, 1944; "Radiesthesia and Electro-medical Practice," *Radiesthesia*, I, 1942.

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5.—*Psychical Physics*, S. W. Tromp, Elsevier Pub. Co., 1949; Review of same in *B.S.D.J.*, IX, 67, 1950.

6.—"Are We Dealing with Electromagnetic Waves?" *Radiesthesia*, III, 1947; "Fundamental Ray Analysis," *B.S.D.J.*, VIII, 64, 1947; "Modern Science and Radionic Therapy," *B.S.D.J.*, VII, 54, 1946.

7.—"Instrumental Detection of Reactive Zones," *B.S.D.J.*, VIII, 65, 1949; see also ref. (9).

8.—"The Search for Water: Where are We?" by K. W. Merrylees, *B.S.D.J.*, IX, 67, 1950.

9.—"Note on a New Radio-electrometer," *B.S.D.J.*, VI, 49, 1945; "The Radio-electrometer," *B.S.D.J.*, VII, 54, 1946; see also refs. (1), (6) and (7).

NOTE.—Unless otherwise stated, the above papers are by the present writer, but more comprehensive and general bibliographies will be found in standard works such as *The Divining Rod*, by Sir W. Barrett and T. Besterman, or those mentioned above under refs. (1), (3) and (5)—especially the last. See also the *Journal of the British Society of Dowsers* in general.

DISCUSSION

Dr. W. E. Benham: Can we really be sure that we are dealing with *electromagnetic* fields and rays?

Mr. Maby: Not absolutely sure, perhaps, as yet. The whole problem is extremely complex, in that various kinds of physical fields and rays are evidently involved—especially when physiological detection is in question. But, even admitting various different components of the supposed "dowsing rays," including what appear to be both orthodox electromagnetic waves and particles of widely different frequencies, velocities and penetration, it seems to be fairly evident that moving electrons, on the one hand, and both Hertzian and gamma to cosmic ray components, on the other, are responsible for most of the phenomena discussed in my paper.

As I said, and as I have indicated in other papers and *The Physics of the Divining Rod* (see, for instance, "Are We Dealing with Electric Waves?" in *Radiesthesia*, III), the main gamut of observations and phenomena in this subject have all the main characteristics of those normally treated by electromagnetic optics and radiology. And the physical detection methods used by my colleagues and myself are based on such principles (see

figs. 1-9 of my paper and legends thereto), since everything behaves *as if* one were indeed dealing with electromagnetic waves, &c.

Possibly some new aspect of electromagnetism is here involved, but I doubt whether any entirely new force in Nature is in question, on the purely physical side, at least. And I am all against giving things new and exciting labels until one is perfectly sure that all other (classical) explanations have first been exhausted and discarded; though you may, if you wish, speak temporarily of an "X," "D" or "R" force, field or radiation. Meanwhile, I think much confusion of thought results from the failure of many radiesthetic and radionic workers to sort out and segregate their various physical factors, so that it is erroneously assumed that a *single* type of field or force possesses many different and incongruous characteristics, that should really be attributed to *several* discrete fields, rays, &c.

Mr. Houghton-Bentley enquired as to the use of an electronic oscillator as an aid to detection of underground targets, such as unexploded bombs, also as referred to by Mr. Maby in relation to depthing procedure, by modification of the Creyke "point depthing" method.

Mr. Maby: The action of this simple aperiodic oscillator, consisting simply of a spark coil, with high voltage secondary output fed to a dipole aerial or else an earth and aerial, is merely to shock-excite the ground and any target embedded therein, so as to boost up the natural radiation field locally, by virtue of the conducted ground wave. It is helpful both when the natural "D field" is weak, owing to local or atmospheric conditions, and when it is wished to accentuate the "radionic" output of energy of specific frequency and waveform from a relatively small nearby target (*e.g.*, a mine or bomb, pipe line, lost object or mineral vein, say) relatively to larger objects of like kind in the vicinity, that it is wished to overlook.

By using a crude, aperiodic oscillator in a non-directional sense, that causes any shock-excited body to re-radiate in the "radionic" manner its own characteristic "secondaries" (see the classical experiments of Barkla and Moseley with hard gamma rays on the secondary "fluorescence" of various materials), considerable success has been obtained in the foregoing way. But experiments are in progress in which not only an exploratory beam (rotating) of energising radiation is used, but also specific frequencies (Hertzian), that are assumed from other laboratory work (see paper cited above and one on "Fundamental Ray Analysis," *B.S.D.J.*, VIII, 64, 1949) to give some degree of syntonisation with the target materials—if only in terms of lower harmonics. Such tests looked promising and may lead to considerable refinements of laboratory and field technique, in terms of selective action.

THE PENDULUM AND QUANTITATIVE ANALYSIS OF COMPOUNDS

BY PHILIP CHAPMAN, M.C., M.INST., H.E.

HOW TO MAKE A PENDULUM AND BE SURE OF RESULTS EVERY TIME

To be a successful Dowser your pendulum must be properly made or you will only obtain varying results.

Some users are better with a light pendulum, others with a medium and others need a heavy one. The length of cord is individual and varies from three inches for a light pendulum to six inches for a heavy one. After many trials with all kinds of pendulums I have come to the conclusion that a glass bead about one inch diameter or a wooden one about two inches long and three quarters to one inch diameter will do all that anyone wants. The hole must go right through or you may find yours is not giving the correct answers.

The best cord is a piece of fishing line. Bear in mind any pendulum is only an indicator of what your muscles and nerves make it do. The following is how to make a correct one, whether of glass or wood. Test both the ends of the holes and you will find one makes the pendulum gyrate clockwise and the other end will make it gyrate anti-clockwise. Then push your cord right through and tie a knot bearing in mind that the end of the hole that gyrates anti-clockwise should always be at the bottom of the pendulum. After you have made the knot allow the cord to slowly slip through the fingers until you get a good gyration. Tie another knot at this length and also one just above the top hole so that the cord cannot slip right through and enable you to use the pendulum upside down without you realising what has happened. For outdoor work I have a ball of boxwood about two inches diameter with a hole right through, also one made of metal (aluminium alloy), each weighing about four ounces and find these will not be affected by even a strong wind without my feeling it is the wind that is making it beat or gyrate.

The colour of the bead or wood pendulum makes no difference to me unless I want that particular colour, so try and obtain a white glass bead and paint the wooden one dull black.

As mentioned above the pendulum is only an indicator and with practice you will find that a bunch of keys on a piece of cord makes a good pendulum unless you are looking for metal. Strange as it may appear your keys will make a pendulum gyrate anti-clockwise at the end and clockwise where the cord is; they have taken up their plus and minus while in your pocket. The difficulty of making a pendulum with the cord just pushed in is that it is by accident that it is correct unless the maker calibrated

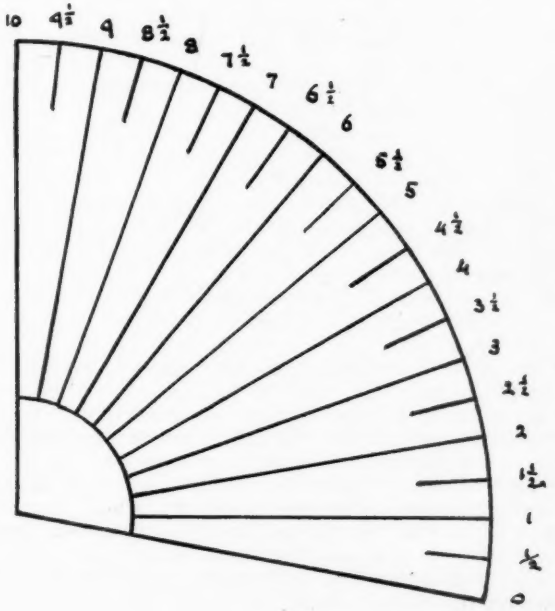
it before boring the hole. The only pendulum that is calibrated by the makers is the Universal Colour Pendulum invented by Bélizal and Chaumery; it is the most perfect instrument I have ever used either for outdoor work or Radiesthesia indoors when I am wanting the colours for treatment. A broom handle is all right for the wood pendulum; get a carpenter to bore the hole unless you can do it yourself.

If the hole is too big for the cord plug it with a match stick or slide on a small wood bead that will fit the hole tight, then the cord will be central.

Quantitative Analysis of Compounds

An easy and quick method for Pendulists to ascertain the percentages in a compound.

On page 94 of *B.S.D. Journal* IX, 68, it is stated that a French 10 franc piece has 67.7 per cent. silver content and when placed in a dilute bath of HCl, which removes the copper surface, the percentage is increased. Therefore a small sample cannot be tested by this method if area enters into the analysis.



For some years I have been experimenting to obtain by a simple method the various quantitative contents of medicines, metals and liquids so that a known sample control will enable me to find out at once whether a fresh bulk supply is of the same quality. For the benefit of those who wish to do what I have done, the following very simple method will help them.

Draw on plain stiff paper a 100 degree angle as in the illustration, divided into 10 equal sections and again into half and quarter sections. A useful size is an angle with 12 inch sides and with a small semi-circle in the corner of, say, 2in. radius.

Place in a bottle or on a piece of paper a sample of the bulk to be tested in the small semi-circle and proceed as follows :—

The line marked No. 10 should point to the West and the operator should face West. Then take your pendulum in your right hand, allow it to gyrate over the sample and while gyrating move it slowly up the 10 line to just outside the large semi-circle, when it will commence to beat towards the sample. Move your pendulum down the curve until it takes up a definite beat along one of the other lines. Make a note of this number, touch the fingers of the right hand on the back of the left and repeat the operation. Your pendulum will then beat along a lower number line. Note the number and continue the operation as before until your pendulum beats along the Zero line.

Your total of tenths, half and/or quarter tenths will always equal ten. Before you can make a second test of the same sample you must touch the left hand as before and you will find that your pendulum will then refuse to beat along the zero line. Then you can start again.

If the contents of the bulk do not agree with your control you may have to alter your method of manufacture. In my case it was absolutely necessary to know the percentage of potash when making a bituminous emulsion so that the ultimate result was always the same. A slight variation would have made a big difference.

When there are two equal parts in the contents, I have found, but do not know why, my pendulum will beat twice along the same line during the test, i.e., first along say line 1 and then again along the same line. This last 1 must be added to arrive at a total of ten.

I can only assume that the wave of one ingredient is stronger than the other and that I pick up the strong one first. I shall be very interested to know a better answer. I have never had a full analysis of the two parts separately or should have tested each one and tried to find the answer.

With a little practice you will soon find that your pendulum settles down to a very definite beat along the lines and to prove this move it along the line towards the sample to make certain you are on the correct one.

Soda Mint tablets and other medicines invariably have the value of the contents in percentages on the label, so place one or more on the small semicircle and proceed as before mentioned to find out whether your findings are the same. Only pure liquid or material will make your pendulum beat along the 10 line. Town water is never 100 per cent. pure. Tin is practically pure and you can prove this by placing a small piece of the foil wrapped round cigarettes in the corner; if it is tin it will beat to 10, if it is aluminium or lead it will not.

Solder and tool steel are sold as containing a certain percentage of other material according to what purpose they are used.

Solder of say 60/40 indicates that there should be 60 per cent. tin and 40 per cent. lead. Solder 50/50 indicates half and half. In each case you will get a beat along the 6 or 5 line first and then along the $3\frac{1}{2}$ lines, and then along the half lines if the lead has only half per cent. impurity. Tool steel will first beat along the line indicating the greatest bulk, i.e., iron, then the next lowest which may be tungsten and smaller contents such as magnesium, &c.

Lead is seldom absolutely pure so test a piece and you will quickly find the percentage of impurity.

Manufacturers who use special materials for special purposes must know that their supplies are all the same quality, otherwise it makes a big difference in the finished article. The same applies to making up drugs. I will not elaborate on the many uses to which this method can be put as those who need the information can quickly find it for their particular purposes.

ARCHAEOLOGY AND DOWSING

BY GUY UNDERWOOD

PART VIII.—AQUASTATS

For previous articles of this series see B.S.D.J., VII, 56, 58, 59, *and* VIII, 60, 61, 62

About two years ago a letter from Major Pogson (*B.S.D.J.*, XIII, 65) suggested that it might be interesting to attempt to trace the fissures feeding the hot springs of Bath. There are three hot springs all in the centre of the city and surrounded by blocks of buildings. It seemed pretty hopeless but ultimately I decided to attempt it.

The main spring is in the King's Bath, which is a 17th century building erected over the original prehistoric bath and spring

which still exist underneath it. One day when in the Pump Room which overlooks this bath I noticed that it was empty and being cleaned, so I obtained permission to make a survey. I found a number of minor reactions but there was one strong reaction line leading from the south side to the central fountain. I traced this outside the buildings where its indicated depth was approximately 400ft. I found that although it first passed under two buildings (Woolworth's in Stall Street and a shop opposite) there was little difficulty in tracing it from there, as, after that it led me without further obstruction along various streets and out into the country in a N.W. direction and then by a circuitous route of five or six miles until ultimately it reached a hill about two and a half miles N.E. of Bath known as Little Solsbury. This hill has a triangular flat top with precipitous sides, and terraces below it near the summit.

The course of the stream, after passing along three terraces, wound about on the flat top, crossing itself time after time and becoming weaker and weaker until I lost it. In its course it followed the S.W. edge for some hundreds of yards. Other streams or branches marked most of the remainder of the edge. A number of large stones are set upright on the plateau protruding a foot or two; the stream crossed several of these so that it appeared that they marked its course and in one place the stream crossed the same stone twice. A plan of the course of the stream from Bath was duly published in the *Bath Chronicle* of April 24th, 1950.

When a stream winds about in the manner described it seems likely to be caused by a water-bearing fissure rising or falling from one stratum to another. When such a course is marked on a plan it produces a labyrinthine design similar to that produced by a piece of string dropped on a floor. I have found several such places and call them 'labyrinths.'

It seems probable to me that it is here that the main uprising of the water feeding the hot springs occurs. Geologists generally agree that the original sourse of the water of these springs is in the Mendip Hills, where the carboniferous limestone and the Old Red Sandstone stand almost vertical. From there they dip in a northerly direction reaching a depth or about two miles below the surface near Vobster, which is a depth ample to give them their heat of 120°F. The strata then rise gently and emerge in various places ten to twenty miles north of Bath.

I should mention that Bath Abbey, which adjoins the Roman Baths, is itself built over a labyrinth which may also feed the hot springs. The reactions are however weak. Another labyrinth exists under Bristol Cathedral and under the open space known as College Green opposite it. All appear to be on prehistoric sites.

The fact that the stream kept to the roads, footpaths and field divisions for practically the whole of its course was interesting and I made a survey of Bath and found that almost all the old streets had streams running lengthwise under them and that the city appeared to be underlain by a grid of waterbearing fissures running at right angles.

I also found that all the main roads (about twelve) which radiate from Bath had at least two streams one on each side usually under the pavements or the gutters. In some roads there were three or four parallel streams, the extra streams being branches of one or other of the two main streams.

Bath is remarkable for its raised pavements or " parades." There are over sixty of these, some of them ten to fifteen feet above the roads. Much of the charm of Bath is, I think, due to the fact that these parades act as plinths, which set off the buildings above them. No one has been able to explain them. Bath was largely built by speculative builders and no such builder would go to the great extra expense involved in erecting them merely for ornament. It would have been cheaper to cart away the earth and build on the road level as is usual. They must therefore have been there before the houses were built. These parades occurred only where extra streams ran parallel with the main two and the side streams followed along them. All parades began where the branch stream left the main one and ceased where the branch rejoined it.

Some parades have flights of stone steps leading down to the road. They are irregularly spaced. I examined thirty-six of them and all are located at places where a branch leaves the streams on the parades and passes into or across the roadway. In most of them the visible stonework has been put there within the last hundred years or so, but I have little doubt that steps or rough stones have existed at those spots from time immemorial. Other towns have one or more similar parades with the same characteristics and there are a number of them at Clifton. These parades appear to be prehistoric walled lynchetts and many can be found in their original state in the country round Bath and have the same characteristics.

I found these things astonishing and brought to Bath all dowsing friends whom I could persuade to come, including some professional water diviners, to test them. About twelve did so and all confirmed that my plans were correct. I then made surveys elsewhere and found that these double dowsing reaction lines existed on all old roads. I have referred to them as " streams " because they give the reactions that dowsers associate with underground flowing water as distinct from metals and other reaction lines.

It will seem strange that no one has noticed these lines before. There are however I think two main reasons—(1) They have a

low perceptive strength—that is to say that they do not give a strong action to the rod when crossed by the dowser and

(2) Practically all dowsing up to now has been done not as I do it—to ascertain the phenomena however small—but with the practical end in view of finding a good water supply at a convenient depth. As all water diviners are aware, there exists a multitude of minor dowsing reactions almost everywhere which either would not produce enough water, or would not do so at an economic depth, or are not due to water at all. Much of the skill therefore of the professional dowser is in my observation devoted to cutting these out and they purposely hold their rods in such a way that it will respond only to the stronger reactions. The forked twig," even if made of whalebone, is a somewhat clumsy and insensitive indicator, which is an advantage for this purpose.

I now call these double lines " Aquastats." Their characteristics are as follows :—

1. Aquastat reactions are similar to stream reactions, that is to say, that they give three definite dips to the rod with pauses between. I am not sure that they give flow lines and parallels similar to water but if they do they are at great distances difficult to check with certainty.

2. Aquastats run continuously without breaks. They throw off branches sometimes double like railway sidings and sometimes single. They join with other crossing aquastats and form a continuous network over the whole country wherever I have tested for them. They appear to converge on certain spots, particularly old cities, and towns, and prehistoric sacred sites. Hippisley Cox in *The Green Roads of England*, p. 5, points out that the district around Avebury appears to be a meeting place for trackways from all parts of the country.

3. Occasionally the two lines of an aquastat diverge and take separate courses. This appears to have been regarded by the ancients as important. Many old parish Churches are on prehistoric sites (see later) and I have found this phenomenon on several of them. In all cases the altar has been set either between the diverging lines or immediately opposite the divergence. Henbury Church, near Bristol, is an instance.

In rare cases the two lines of an aquastat cross each other. I have found this on burial mounds. One is at Sherrington, nearly Wylye, Wilts.

Sometimes aquastats form labyrinths. There is a good example in the churchyard at Beckington, Somerset.

4. The width of each line is two or three feet and the distance apart of the two lines varies from three to between fifty and sixty feet. The width of the roads varies with the width apart

of the aquastats, except where roads have been widened. Those under four feet apart and some single branches were used to locate footpaths.

5. Aquastats produce both the positive and negative influence (see notes) and can therefore be located by any dowser whether positive or negative and either by the twig or by a sensitive rod.

6. The principal function of aquastats in the prehistoric religion appears to have been to indicate the paths along which it was ordained that man should travel. They are not found on any modern or Roman roads unless such roads happen to follow ancient courses.

GEOSTATS

In my last three articles (see ***B.S.D.J.*** VIII, 60, 61 and 62) I described certain lines upon which hedgemounds by roads were located and which have other interesting phenomena. I suggested that the existence of these was the cause of the winding courses of our country lanes and roads and I therefore called them "Track Lines." It is however now clear that aquastats are even more closely associated with trackways than are "track lines," and I now therefore call the latter "geostats" or "geostatic lines," in order to enable a comparison with aquastats I would like to repeat with a few additions their characteristics, which are as follows:—

1. Each geostat consists of nine reaction lines arranged in sets of three, which I call "cord" lines. Each cord line consists of three "hair" lines. The reaction is weak and consists of tremors rather than dips of the rod. To perceive them a "sensitive" rod is almost essential and I know of only two dowsers able to get them with a twig. Their average width is six to ten feet. They are always to be found one on each side of the aquastats on which the roads are aligned and the hedgemound or wall is on the centre cord line. Their distance from the aquastats is usually about equal to the width apart of the latter and it is this space which constitutes the verge of the road. Occasionally they do not keep parallel but swing away from the main aquastats so causing the otherwise often inexplicable occasional widenings of the verges of country roads. The usual cause is a side-branch of an aquastat very similar to those marked by raised pavements in towns, or like a siding on a railway.

2. Geostats appear to be secondary reactions of aquastats and to be in a state of equilibrium between two forces and in some ways much resemble electrical lines of equipotential.

3. The principal practical application of them by the ancients was as boundary lines and many of our irregular field divisions are aligned on one of a pair of geostats, the aquastats not being marked.

4. Their most important significance in the old religion was the spiral form which they assume and also that under certain rare conditions they form complete circles. In my last article the great spirals at Stonehenge and the double circle on which its ditch and mound are aligned was illustrated. These great spirals and circles appear to occur when they are completely surrounded by opposing influence lines. Such circles and large C-shaped spirals (but not S spirals) are almost always in duplicate one within the other. It is on circles of this kind that the ancients located, not only Stonehenge, but Avebury and all other similar sites that I have examined.

Very large "C" spirals appear to have had a protective significance to the ancient peoples and I have found a number of church sites enclosed within them, for example Trowbridge and Broughton Gifford, Wilts, and also some houses on very ancient sites, such as Lower Westwood Manor and Devizes Castle, Wilts.

NOTES ON DOWSING

It is difficult to think of anything more valuable to the study of dowsing than that all competent dowsers should publish their methods and observations and the deductions which they draw from them, so that it could be seen where they agree and disagree. If they do not agree there must be some explanation which could be found by investigation.

This should lead to universal agreement on at least some basic facts which does not seem to be the case at present, and would be of immense assistance to other students.

Unfortunately most of the expert dowsers are professional diviners who are disinclined to enlarge upon the mysteries of their calling. Most of them believe that they are possessed of secrets hidden from other men, and upon which their living depends. My own feeling is that they all have the same secrets and use the same methods.

In the hope that others will follow my lead I propose to state here my own observations, conclusions and methods, which are as follows:—

I agree with most of those who have made any attempt at scientific investigation of dowsing, that the movement of the rod in the dowser's hands is due to a reflex action of his arm or hand muscles when he comes within the influence of an underground stream and that this influence involves some wave motion.

Reflex actions are due to stimulus to our nerve centres and my experiments suggest that this nerve centre is located at the base of the skull at the top of the spinal column.

If a dowser can locate an underground stream in one place clearly he can locate its course anywhere. For example: however much a stream may wind across a field he should be able and is

able to mark its course. Whenever he crosses that line he is affected. It follows that what affects him is some discontinuity in the conditions, presumably electrical, of the atmosphere upon that line. Such a discontinuity is a 'line of force' and if the proposition was put to physicists in that way, instead of in the vague way in which it is generally put, I do not think it would be long before some physicist began to take a little interest, as such a line of force is at present unknown to, or unrecognized by, modern science although apparently known to the ancients.

Water by itself does not affect the dowser nor do streams rivers or other water on the surface. All that any competent water diviner claims is to locate underground streams. An underground stream can be defined as follows—Water, underground, in motion, under pressure, subject to friction and connected ultimately with the sea. So far as I am aware no dowser could pick out from a row of pots covered with a cloth the one which contained water. As to underground sewers, water adits and the like, the reaction is so slight as to be almost non-existent and few dowsers would undertake to locate and trace them, although I know of several who claim to have done so.

DOWSING REACTIONS

The dowsing reactions are complex but can be divided broadly into two kinds—positive and negative. There are two kinds of dowser whom I distinguish as either positive or negative according to the kind of dowsing influence to which they are most sensitive. Few dowsers are equally sensitive to both.

The narrow band of influence, usually two to ten feet wide, vertically above the stream, and usually referred to as the "Stream Band," is a "positive" influence.

On each side of the stream band are broad bands of influence sometimes thirty feet or more wide. These are "negative" influences. They become weaker the farther they are from the stream band.

The effect of these two influences is as follows: Assuming that the dowser uses the ordinary forked twig and holds it in the conventional manner, that is to say with his palms upward, then as the *negative* dowser approaches the stream he will begin to feel his rod rising and the pull on the rod will become gradually stronger as he nears the stream band, where when he reaches it his rod suddenly, as he expresses it, "loses power." In other words the negative influence appears to be obliterated by the positive. Few negative dowsers are able to feel the positive influence except to the extent I have described.

The positive dowser feels practically nothing of the negative influence other than perhaps a slight kick or lift to his rod, and perhaps an almost imperceptible tingling, which warns him that

a stream is near, but, when he reaches the stream band his rod will give three strong dips downward and recover with a slight pause between each.

If either kind of dowser holds his rod with palms down its movements will be reversed. It will also be less vigorous as, when held palms down, the forearm muscles are in less tension and therefore less susceptible to reflex action.

The width of the positive influence is often called the " width of the stream," but it has no relation to this. I have found no difference that I could discover between a stream known to be in a rock fissure and one known to be in gravel or sand, which may extend as a water-bearing stratum over a wide distance. Several dowsers have suggested that the influence from water-bearing strata, as distinct from fissure streams, locates itself above where the greatest amount of water flows, and that it is advantageous to use dowsing even over strata where water is certain without dowsing, as by so doing the largest and most free-flowing part of the stratum is tapped. It is however impossible to verify this. It is always, however, advisable to dowse on a chalk subsoil because although some water can be expected at a certain depth as a matter of course a far better and more permanent supply can be obtained from a fissure of which there are many and which drain away the water from large areas.

Practically all the " village dowsers " are negative dowsers or " natural " dowsers who have discovered their gift by trying the twig. They are very reliable in locating the water but can seldom estimate depth as they are usually insensitive to the positive influences by which the positive dowser ascertains depth under the " Bishop's Rule." Some, however, could do so, the best known being John Mullins, Benjamin Tompkins and Bleton, the French dowser.

I hope to deal more fully with ancient roads, barrows, church sites, barns and market crosses in a future article and trust that in the meantime other members will also make investigations.

As Mr. Underwood himself states the observations, conclusions and methods he describes are entirely his own. What he terms aquastats and geostats are found in other forms by other dowsers, e.g., Peyré (squares with circles inside), D. O. King, C. T. Gardner, and others. To associate the alignment of roads, buildings and boundaries, and the siting of ancient monuments, with the previous existence of such lines of reaction seems to be farfetched, if not fantastic. It is far more likely that the reactions described are in many cases directly due to the existence of such roads, buildings, &.., for it is well known that vertical masses and changes in density of the soil, as would occur by the making of roads and tracks, are the cause of reactions owing, probably, to the changes produced in the electromagnetic surroundings. Moreover, it is well known that reactions can be aroused by entirely subjective influences, as in map dowsing. There is no reason to suppose that our Neolithic or Bronze Age ancestors knew anything of dowsing as now practised.—EDITOR.

PART TWO

PRELIMINARY INVESTIGATIONS ON THE ELECTRIC CHARGES ON THE SURFACE OF THE SKIN

BY DR. E. A. MAURY

I.—INTRODUCTION

The object of this study is to present an assemblage of biological clinical and therapeutic phenomena which we have been able to discover by means of an apparatus of original construction, the principle of which is contained in the following description.

The investigation was originally suggested by the well-known fact that electric charges are always to be found on the cutaneous surface of the human body, though very little detailed information on this head has yet been obtained.

A certain amount of study of these electric charges, notably by Dimier and Soulié de Morant, was undertaken, but it was not followed up, and the apparatus used has been lost or destroyed. The object of their investigations was to obtain information about the existence and extent of human electricity with the help of an extremely sensitive galvanometer. It was ascertained that the points used in Chinese acupuncture possessed a peculiar power of emission; numerous observations made it possible to state that with people in normal health the electric charge attained an average of 8 microamps, with fatigued subjects on the contrary the figure was only 1 or 2, with people who were over-excited or suffering from contractures it was as much as 15.

We thought it desirable to re-discover a technique for taking such measurements so as to obtain clearer and more complete results. We therefore started off with the new data available to-day by applications of more recent electrical technique, bringing up to date in some way the study of known phenomena and widening the scope of our knowledge and application of them.

As opposed to the various apparatus used in modern medical physics and in electric physiotherapy in both their diagnostic and therapeutic applications, all of which have the common object of introducing into the human organism an electric potential varying with the desired effects, derived either from a direct current or else from an alternating current of high or low frequency, the apparatus we constructed was, on the contrary, designed to demonstrate an electric charge residing in the tissues and discharging on the skin surface. These discharges vary, as we

shall see, in different individuals, with the point of application and especially with the pathological condition present.

The experimental observations described in these pages are not yet conclusive, for we are still in the first stages of our investigations and are not yet in a position to establish a solid and irrefutable theory capable of explaining the facts observed. Nevertheless we seem to have broken new ground both in regard to nosological information and therapeutic application, and we have reached a point which calls for the utmost caution on our part, not in the exposition of recorded facts but in the conclusions we are tempted to form.

II.—The Panorgon

Method of application

After the apparatus has been connected to the local current, one of the two blunt gold points is lightly applied to the surface of the skin, the area concerned having been previously cleaned with a swab saturated with 90 per cent. alcohol to remove impurities, crystals of cholesterin and greasy particles. We will describe later the methods of application and the principle we have followed in the course of our researches.

The duration of the application of the receiving blunt point, which is held in the right hand of the operator, varies with the desired effect; our personal experience has led us to limit each contact at any spot to between 5 and 20 seconds, save in the case of robust subjects or patients whose cutaneous electric charges appear at the first inspection to be extremely high. We will see later under what conditions this phenomenon is encountered. We have also found that it is better to limit the period of local contact, especially when a therapeutic effect is wanted, even if the spot appears to be heavily charged, and to return to the same spot several times in the course of the same sitting. For a clinical examination pure and simple, a short contact limited to several seconds, seems to be the best; this, as we shall see, is possible under certain conditions.

The first principle by which we were guided in our exploration of the cutaneous surface was obtained from recent works on acupuncture; particularly in our search for points of cntact were we inspired by the remarkable anatomo-clinical pictures in the treatise on Chinese acupuncture by Soulié de Morant. On one patient, the first we treated with this technique, who was affected by chronic lumbago with permanent and painful contracture of the lumbar muscle group and of whom we will speak further in the therapeutic section of this report, we applied the

blunt point at the spots specifically indicated in *Siniatrie* and at the end of the first sitting found a clear relaxation of the lumbar, muscles, for the patient, who at the beginning of the sitting was bent double could easily straighten himself at the end. Later experience taught us that we could apply the gold point at any other place on the cutaneous surface than the Chinese points, particularly within the areas of the epidermis over an inflamed or painful organ. For example, in cases of sciatic neuralgia we have applied the point at the traditional Valleix spots and obtained a positive curative effect. We must mention in regard to the processes of inflammation or congestion of the different organs that a contact over the latter has brought about a distinct moderation of the pain experienced by the patient. We will return to this point in the therapeutic section of our report.

It would rather appear that the cutaneous zones over the seat or pain are, in a sort of way, pathological skin projection areas of certain visceral disturbances which would confirm the work of Head on cutaneous hyperesthesia in diagnosis.

As a means of control of the modifications produced in the passage of the current, modifications which occur as soon as the blunt point is applied to the skin and appear to have their origin in the body itself, we use, as just stated above, a fluorescen t screen connected to an oscilloscope and a loudspeaker. On the screen a curve appears, which in the course of the applications to the skin undergoes more or less pronounced modifications which we will study later, whilst the loudspeaker gives varying modulations of sound according to circumstances. Thus our methods of control are twofold, depending on both sight and hearing.

In applying the blunt gold point to any spot on the cutaneous surface of a patient to be examined or treated we have noted various responses which are visible as curves of different shapes on the screen of the oscilloscope. All the types of curves observed will have to be studied systematically later with regard to the individual concerned and his pathological condition. But it can definitely be said that the responses on the oscilloscope are not the same with all subjects but vary according to the nosological type or the pathological disturbance specific to the disease or infection.

We began our experiments with the amplifier, which is the foundation of our apparatus, using in the first place a primitive oscillograph but later one much more recent and efficient. With one or other of these apparatus according to the nature of the case, the contact of the blunt point with the skin of the patient has enabled us to observe on the fluorescent screen the existence of a continuous or of an alternating current of low frequency,

or again of a high frequency current in certain well defined cases of which we will speak later.

Generally speaking all these movements are discontinuous, that is to say, the images are not constant during the same application, even when this is limited to only a few seconds; they are dissociated and present reactional types at times of a continuous, at times of an alternating current, at times of a high frequency current; or again the three types of current combined and that in the course of one sweep lasting theoretically one fiftieth of a second.

As soon as the blunt point is withdrawn from contact with the skin, the curve of the oscilloscope tends to return more or less quickly to normal, that is to say it will only give the image caused by the passage of the ordinary current as the cause of the disturbance of the image has been suppressed. Nevertheless, we have observed that this return to normal is not instantaneous, and that for several seconds at least a type of image similar to that previously provoked can still be observed on the screen. The duration of the modification of the oscilloscopic image after contact seems to be proportional to the intensity of the discharge obtained in the apparatus in the course of the cutaneous contact. The stronger the discharge, the longer will the image remain modified. We have called the duration of this process the "damped wave."

During the visual observation of these different types of curve the sounds arising from the modulations in the loudspeaker can be registered. These noises are more or less sharp according to the type of current observed, the high frequency current giving the highest note. We have also noticed, in working our apparatus, a phenomenon now well known, which confirms the idea that the human body acts like an aerial and can serve under certain conditions as a radio receiver. In the course of numerous treatments we have been able by the mere contact of the blunt point to certain parts of the skin—and we have observed that these points correspond in general to a localised area of congestion, inflammation or pain—to hear a radio-phonic emission on the loudspeaker. A point sufficiently important to be worthy of mention, which we may note in passing, is that every individual did not pick up exactly the same transmitting station, for with every new subject examined a different radiophonic emission was obtained.

It can therefore be said that the human organism picks up only those waves which are in resonance with its particular wave length. We are only formulating a hypothesis which remains to be verified by systematic experiments and to be explained by regarding the individual from a different biological angle than from that usually adopted.

III.—Measure of the Cutaneous Charges

A. Technique. It therefore appears that, thanks to this amplifying apparatus and to the dispositions made, it is possible to measure the electric charges on the surface of the skin, not only, let us repeat, at the precise points prescribed by Chinese acupuncture, but at all other pathogenic zones of the cutaneous surface. Let us say at once that these charges appear to vary according to the part of the skin to which the blunt point is applied and that this variableness is a function of the individual examined as well as of the pathological type.

To establish these measurements in a precise manner we have at our disposal:

(1) *The oscilloscopic screen*, on which, besides the modifications in the curve already mentioned which are only of qualitative value, the height of the curve can be calculated, knowing that in the case of the oscilloscope used in our experiments, a rise of 5 cm. corresponds on an average to 20 millivolts.

(2) *The millivoltmeter*, placed in the circuit of the apparatus, on which the value of the charge at any point of the skin can be accurately read.

In order to study and to measure the deviations of the curve and so obtain the value of the cutaneous charge we proceed in the following manner:

(*a*) We begin by noting the level of disturbance due to the existence of interferences usually present in the mains supply (in our case 50 cycles). To do this we start the apparatus and take a reading on the millivoltmeter without applying the gold point to the skin.

(*b*) Next we apply the point to any part of the skin and take another reading; we then subtract this reading from the first which, as already stated, represents the degree of interference disturbances inherent in the current. From this result we subtract a charge X in millivolts due to induction. Thus we get a definite measurement representing the charge present at any place on the surface of the skin, within a small margin of error.

(*c*) Thirdly we apply the blunt point to a pathological spot ("Valleix" points, e.g. seats of neuritic pain, congested areas, &c.) and take a final measurement. This is compared with the preceding one, care being taken always to deduct from that figure the readings of the inteference and inductive charges. It is to be noted that these disturbing phenomena are constant for the same frequency. It usually results that a comparison of these figures shows a higher value at pathological than at normal points.

B. Some examples of measurements

A few examples are given of figures obtained on a healthy subject to demonstrate the technique employed and the method of calculation.

Subject I

(1) Before applying the blunt point to the skin after the apparatus has been set going a first reading is taken representing the degree of perturbation due to interference disturbances 0·086 volts.

(2) The blunt point is applied then to the skin of the subject (in this case to the side of the neck at the level of the tonsil). The reading is 0·400 volts.

(3) By subtraction: ·400—·086=·314 volts.

(4) From this figure the charge due to induction is deducted—0·045 volts.

(5) The final result obtained is ·314—·045=·269 volts, or 269 millivolts, and this is the charge residing on the healthy subject at the surface of the neck.

Apart from this observation we have recorded the value of charges on the skin of other subjects suffering from various diseases, purposely choosing patients in whom the areas of pathological projection were the same.

Subject II. Chronic tracheitis.

The contact of the blunt point was made at the same place, i.e. the side of the neck, in order to admit of a comparison. The following figures were obtained:—

(1) Disturbance due to interferences—·400 volts
(2) Cutaneous charge—2·000 volts
(3) Inductive charge—·045 volts

The result is 1555 millivolts, which is much higher than the previous one, in which the subject was free from tracheal or laryngitic affection.

Subject III.—Emphysema

Still at the same point of the neck, we get a final result of 3355 millivolts.

We think we can now say definitely that cutaneous charges differ with individuals and according to their pathological condition, for at precisely the same point in three different subjects we have noted three entirely different figures increasing in value according to the seriousness of the disease.

It is to be noted in connection with these observations that the modifications in the type of the oscilloscopic curve have followed the increasing values of the millivoltage. They have shown

a raised oscilloscopic discharge at the skin of the neck in Subject III for example, which was much higher than in Subjct I. Similarly the modulation in the loudspeaker was much sharper with Subject III.

All these measurements obviously require repeating, completing and interpreting. But once again let us say that in this first report we only intended to note the exact facts observed and measurements obtained by means of physical apparatus giving irrefutable readings. There can be no question of valuation due to suggestion and personal to the observer, but of measurements which cannot be disputed. Only the interpretation and the value of the figures require to be elucidated by other series of experiments, and these we intend to undertake later with apparatus now being constructed in our laboratory.

IV.—Biological and therapeutic study

A. Principle

At the beginning of this report we described the origin of the idea which guided us in the choice of our apparatus. Knowing that it had already been possible with a relatively simple technique to obtain on a galvanometer electrical measurements taken on the skin differing with the individual's state of health, we concluded that with improved apparatus it should be possible to obtain more precise results.

We then undertook to treat in the same manner various conditions intractable to the classic treatment with more or less success, but apart from therapeutic results this method of treatment has enabled us to make certain observations which we will describe later on.

B. Technique

Regarding the technique employed, after several months of tentative experimentation we have in general treated our patients at times outside the periods of digestion, for preference in the morning. We have moreover limited the duration of the application of the blunt point to each of the spots specific to the disease to a time varying between 5 and 20 seconds. Let us recall once more that these points on the surface of the skin have not always been those indicated in the treatise on acupuncture, but that we have chosen them in relation to the areas of cutaneous projection corresponding to a subjacent organ pathologically affected; for example at the side of the neck in tracheitis and hoarseness, at the " Valleix " points in the case of sciatica. We must remark in passing that these pain points correspond very nearly to the Chinese points indicated for the same affection; this can also be said of other points specific to other affections and it is enough

to open a treatise on acupuncture to discover in certain of their plates the centres of pain which we ourselves search for systematically during any clinical investigation.

To return to the description of our technique, we should add that the time taken for a sitting in which contact is made on a number of points in succession on the surface of the skin does not exceed 15 minutes for we have found that if this time is exceeded the patient, unless of a particularly robust build, experiences a feeling of intense fatigue for several hours after. This feeling of fatigue may in certain cases last over the following day; the features become drawn, there are fits of giddiness and the pulse is weak. These reactions become less and less noticeable during the course of treatment, except in the case of patients with a much reduced vitality and in such cases we have been obliged to suspend treatment altogether.

(1) *Clinical remarks*

(*a*) As we have already stated the Chinese points of acupuncture do not appear to be selective or specific to the diseases to be treated. The oscilloscopic responses are obtained when the blunt point is applied to other places on the surface of the skin. We have dealt with this question already.

(*b*) Whilst the blunt point is being applied to a part of the skin a phenomenon of cutaneous vasodilatation can be observed radiating from the point, the phenomenon becoming more pronounced as the spot touched becomes nearer the optimum. In time with this reaction and always if the spot touched is well found, the patient has a distinct sensation of pricking although the point used is blunt and the sensation is not experienced away from the apposite spots.

(*c*) As already stated, after a rather prolonged sitting (over 15 minutes) the subject may experience a feeling of fatigue and fits of giddiness; it may even happen, especially after the first sitting, that the patient experiences a temporary aggravation of his morbid condition.

(*d*) Clinically, in the case of contractures such as in hemiplegia, lumbago, torticolis, a distinct diminution of these phenomena is observed in the form of relaxation of the muscular spasms even in the course of the application. The phenomena of contracture may recur during the following days in a much less pronounced form.

(*e*) In the case of abscess, furuncle, anthrax, &c., the application of the blunt point on the centres of purulence encourages the formation and discharge of a boil or of pus.

(*f*) The type of oscilloscopic response obtained by the contact of the point at the classic spots of acupuncture may form a

diagnostic feature. Here is an example : in treating a patient for neuritis of the elbow, the blunt point is applied to one of the meridial points of the stomach passing on to the lateral surface of the neck. This spot is indicated in Chinese therapeutics for the treatment of this order of affection. Now on the oscilloscopic screen we note the formation of a sinusoidal image, of high frequency potential, which is not obtained at other spots. When the patient was questioned by us he complained of chronic tracheitis. This sort of thing happened several times in the course of our investigations. An abnormal image at a definite point has guided our clinical inquiry towards such and such an affection connected with the special position of this spot. It would be interesting to return to this when classifying nosological researches and give them a numerical value.

(2) *Therapeutic remarks*

The duration of therapeutic applications and the number of sittings vary with the affections to be treated. If two sittings have sufficed to cure completely cases of lumbago or sciatica, more than twenty sittings have been required to obtain sensible amelioration in a case of disseminated sclerosis.

In certain cases the reaction is immediate and follows the application of the point by a few seconds. In two cases of hyper-thyroidism with increase in size of the gland we were present at a sudden retrocession of the organ and to a return to normal of the outline of the neck immediately after the application of the point to the cutaneous area situated above the sternal fork. The same thing has happened in several cases of gastric distension when the blunt point was placed on the solar plexus. Patients so treated have reported a distinct impression of digestive relief (remember that our sittings always took place some time before or after meals).

Positive results are not always the rule ; it would be astonishing if they were, for no therapeutic method is entirely dependable and every new method of cure has its setbacks. But if we have obtained improvements, even cures in a certain number of cases such as painful conditions, migraines, asthmas, we have encountered checks and even aggravations, particularly with diabetes. This negative result should prove instructive and helpful to the understanding of this disease once we have ourselves learnt to interpret the cause and the significance of the phenomena which we observe with our apparatus.

PART THREE

EXTRA-SENSORY PERCEPTION AND THE PARAPSYCHOLOGIST

BY J. CECIL MABY, B.Sc., A.R.C.S., F.R.A.S.

In a paper which may be thought to mark the end of an epoch in modern Parapsychology* (the new name for psychical research by professional investigators), Dr. J. B. Rhine broadly surveys recent laboratory work on extra-sensory perception (E.S.P.), or the *psi* faculties, as we are now instructed to call them, achieved chiefly in the U.S.A. and England during the past twenty years.

As one has come to expect of him and his associates at Duke University, N. Carolina, where many pioneering statistical enquiries have been made in this specialised field, Dr. Rhine presents us with a clear-cut, logical and dispassionate account of what has been, and what still remains to be, achieved with regard to the scientific establishment, evaluation and analysis of these supposedly paranormal faculties in man and, perhaps, other animals.

Fostered in its early days at Duke by Prof. W. McDougall, that stalwart anti-mechanist of British twentieth-century psychology and past president of the English S.P.R., of whose kindly guidance and inspiring acumen the present writer has the warmest memories; Rhine's aim has never wavered from its original high purpose and scientific integrity, despite the usual admixture of adverse scepticism and exaggerated adulation meted out by professional psychologists and parapsychologists, who were not slow to copy his methods or to try to pick holes in his procedure and deductions.

Using improved experimental techniques, involving prolonged statistical analyses of numerical data, obtained from university students found to possess E.S.P. ability in sufficient degree, and employing packs of specially designed cards, marked with five simple geometric symbols, instead of the old-time playing cards; Rhine and his collaborators quickly managed to show, beyond reasonable cavil, that both simple telepathy and/or clairvoyance could be demonstrated in such normal everyday subjects, granted only the right atmosphere of quietude, patient attention, sustained interest and mutual sympathy between agent and percipient or subject and operator.

There was, of course, nothing novel in all this, apart from the improved technique, since English, American and Continental

* The tenth Myers Memorial Lecture to the S.P.R., London, 1950, by J. B. Rhine; price 1/6 net.

workers had, long previously, already conducted statistical and experimental enquiries of a similar nature; and individual investigators such as Coover and Jephson had made a serious start upon the problems of telepathy and clairvoyance respectively. To such tests and analyses the American work formed a logical sequence. Rhine's persistent efforts, however, immediately stimulated others, such as Whately-Carington, Tyrrell, Soal, Goldney and Thouless in Britain, to repeat, vary and even enlarge upon the American work, and that, too, with definite, if not always precisely corroborative results. And it has been interesting and amusing to the present writer, who, in the thirties, backed up Dr. Rhine's findings by articles in *Light* and elsewhere, to see how English investigators gradually veered round, with process of time and their own improved experiments, towards acceptance and warm-hearted approval of Rhine's main findings. Dr. Soal, in fact, was Chairman at the S.P.R. meeting now under review, to which he contributed a helpful introduction.

At the same time, one cannot help noticing that Dr. Rhine, who himself has conducted successful experiments of a mass-statistical nature in order to demonstrate the so-called psychokinetic (P.K.) effect of intent human thought—small though it be—on the numbers turned up by rolling dice, has yet fought shy of physical phenomena in general and of the radiesthetic aspect of divination, &c.; in particular. But this is scarcely surprising, though some may deem it illogical, in view of the facts :—(1) that the main bias of Psychical Research, as practised by leading members of the English S.P.R. (in whose tradition Dr. Rhine may be said to follow), has been increasingly directed towards non-physical phenomena; and (2) that the aim of workers such as Dr. Rhine, who openly refers to the insidious dangers of Communist philosophy in this sense, has generally been to demonstrate extra-physical, purely *psychical* powers in man, as a much-needed antidote to modern scientific materialism. And, in so far as the tenets of spiritistic, survivalistic, religious and metaphysical doctrines (shorn of much hypocrisy, wishful thinking, atavism and harmful emotionalism) are concerned, every right-minded and civilized soul will, surely, add a fervent "Amen!" to this high and very urgent ideal.

In short, much of the present paper may, like that by E. S. Virpsha on the nature of *time*, so ably reviewed by Mr. Benham in our last issue, be considered to be far too psychological and academic for discussion in the B.S.D. Journal. But, for the sake of those who attribute considerable importance to *psychic divination*, as contrasted to radiesthesia and radionics proper, the following additional remarks may be of interest.

First, Dr. Rhine shows that far too much attention was originally paid by parapsychologists to so-called *telepathy*, at the expense of the correlative phenomena of *clairvoyance* and *pre-*

cognition; two further aspects of a single (?) *psi* faculty in man, that would appear severally to involve transcendence of matter, space and time. Even the term "telepathy," coined by F. W. H. Myers, can itself be shown to presume the very nature of that faculty which it was the express aim of the investigators to determine by unprejudiced observation and experiment. And Rhine goes on to explain how it is practically impossible, as a rule, to exclude clairvoyance and precognition from results intended to refer solely to pure telepathy. So that the latter remains somewhat uncertain of proof, though the other two faculties, or aspects of *psi*, seem more assured.

That being so, all the earlier tests may have merely demonstrated the existence of undifferentiated, or mixed, E.S.P., and the emphasis may now be more upon *clairvoyance* and even *precognition* by a percipient, regardless of the assumed "telepathic" role of the supposed agent. Nevertheless, there exists a great body of cumulative evidence for what we call *telepathy* in other branches of Psychic Science: for the projection across space-time, that is to say, of mental ideas from the mind-body of active agents of a wilful or dramatically emotional nature, that can then be picked up subconsciously by relatively passive percipients who are also in a suitable state of receptivity and sympathetic *rapport*—which may be at least partly a matter of radiesthetic and radionic syntony. And such interaction can most conveniently be conceived in terms of classical telepathy or "mental radio," to use the physical analogy, which not a few experimentalists still favour in view of certain reasons already put forward by Basil Smith, Robertson, Eeman and myself, among others.

Important points about telepathy are, I think, these:—(1) that an active incarnate or (as sometimes appears) discarnate *agent* is undeniably involved in certain spontaneous and even experimental cases; (2) that the relative success of the "transmission" depends obviously on the *emotive state* of that agent; (3) that there is often a dramatic sense of mental, spiritistic or almost physiological *invasion* of the scene and of the percipient's psychosomatic organism by the extraneous, inspiring personality; (4) that various psycho-physical conditions, affecting both the supposed agent and percipient (too many and particular to list here) appear to facilitate or else inhibit the business in a manner highly suggestive of radiological factors; (5) that some talented trance mediums, psychometrists, clairvoyants, diviners, automatists, scriers, &c., have been found to be very poor E.S.P. subjects in the sense of the parapsychological laboratory; whereas good hypnotic subjects often achieve remarkable results in both travelling clairvoyance and (seemingly) pure telepathy.

Such data, of which there is a vast accumulation the world over, well attested by many competent observers, are very oddly

neglected by laboratory parapsychologists like Dr. Rhine, who appear to be unduly prepossessed and, perhaps, depressed by the rather meagre and unrewarding data so laboriously got from statistical card-guessing or dice-rolling tests with everyday folk, who naturally find these routine experiments exhausting and uninspiring. They cannot, therefore, be expected to yield very highly significant or dramatic results, comparable, say, with death-bed apparitions, &c. And it is remarkable that would-be radiesthetists tend to tire equally quickly of logical scientific proofs, based on detailed numerical and instrumental data, that at long last promise to vindicate their claims; preferring the dim and sultry limbo of "psychic" explorations and mystical, pseudo-scientific explanations.

In fairness to Dr. Rhine, however, it should be noted that he himself evidently does realise the limitations of the experimental methods here in question (as does also Mr. G. N. M. Tyrrell), as his B.B.C. broadcast last year will show. (See *Light* for January and February, 1951).

In short, the very methods employed in these professional and academic enquiries may turn out to be their own worst enemies, thanks to unavoidable boredom, lack of real sympathetic *rapport* between agent and percipient, lack of any dramatic meaning content of the tests, failure to take into account various concomitant psycho-physical factors of the kind also encountered in radiesthesia, and so forth. For the same reason, I suspect, Dr. Rhine and his colleagues should not be unduly surprised if if the world of ordinary mortals (including other scientists, politicians, philosophers and theologians) is not very deeply moved by these very limited, though important and fundamental, experiments. For the world is now used to far more striking, dramatic and sense-shattering events, such as faith-healing, ghosts and levitations, on the one hand, and miracles of surgery, radio, engineering, synthetic chemistry, strato cruisers, cyclotrons, rockets and atom bombs, on the other.

The fact that survival research has also, lately, fallen short of its mark should not surprise modern parapsychologists either. It is, in fact, largely owing to their own turning away from the major issues of Spiritualism and Psychical Research (as originally conceived by a few earnest and philosophic minds, who avoided the meaner toils and pitfalls of over-specialisation) by those who now devote themselves so rigorously and painfully to laboratory investigations of E.S.P. or *psi* phenomena, that many eager students have been diverted from their native interest in the wider issues. At the same time, physical science has, so to speak, dematerialised the whole universe, thus providing equally astonishing counter attractions, the full wonder and mystery of which only a few metaphysically minded mathematicians, &c.,

of the standing of Whitehead and Einstein appreciate in a proper philosophical perspective.

When all the richly dramatic, human soul-stirring phenomena of Psychic Science and Spiritualism, religious mysticism, artistic inspiration, divination, &c., are so often superciliously and pedagogically swept from the board, to be replaced by a thin hash of rather dull and (to most people) not very convincing statistical averages, probabilities and so on, relating only to card-guessing and dice-rolling experiments by everyday folk, it is only natural, however deplorable, for the world and his wife to yawn and look elsewhere for philosophic conviction or spiritual inspiration. Nor, alas, will modern states and universities be in a hurry to endow such work financially when there are so many other more exciting and profitable counter attractions. The Church and many professional psychologists and metaphysicians, on the other hand, cannot well be forgiven for their extraordinary apathy, since all this clearly concerns them vitally and, through them, the general welfare of mankind.

One may doubt, however, whether these parapsychological enquiries have much bearing on dowsing proper, in terms of radiesthesia or radionics, unless and until it can be shown that (1) some diviners get consistently right answers by clairvoyance or even some sort of precognition—which the facts so not yet clearly imply, or (2) all the elaborate electromagnetic and radiological work on our subject, with its clear instrumental confirmations of the ordinary dowser's claims and their subsequent commercial vindication, is just moonshine—which also appears to be far from the case.

At the same time, while radiesthetic operators can obtain high success in detail, in the best instances, without any call upon telepathy, clairvoyance or precognition, it is true that map dowsing may possibly involve a kind of travelling clairvoyance, and that some *diviners* (properly so called) may also employ some psychic faculty of the *psi* variety; though mixed with far too much wishful thinking, guess-work and self deception. If so, then this is the province of psychic science and the S.P.R., not of radionics, radiesthesia and the B.S.D., surely.

Useful clues and general progress in the understanding of some of the more physical phenomena of psychical research, including even certain aspects of clairvoyance, psychometry, locational haunting and simple telepathy, seem likely to come from modern work in radiesthesia and radionics, rather than the other way round. Yet, when all these *physical* factors have been elucidated, I fancy that we shall still find ourselves confronted more indubitably than ever by unreconcilable *psychical* and *spiritistic* phenomena in the fields of true parapsychology, divination, &c. And these latter have been sadly neglected by most modern psychical researchers, in their nervous apprehension

of being deemed gullible or "unscientific"; though science really refers to organised knowledge and methodical observation and deductions of any sort—not simply in the fields of physics and mechanics as some people falsely imagine.

Then, and then only, will Dr. Rhine and his friends (among whom I hope still to be numbered) find themselves armed with sufficiently powerful ammunition to combat the materialistic doctrines that now beset us, of which Communist philosophy is the foetid and poisonous flower. But societies such as the S.P.R. cannot hope to influence the mind of modern man in a profoundly religious or philosophical sense so long as they themselves mainly practise and preach what is, in fact, a creed based on a variant of mechanistic experimental psychology and physiology, which stem from the spatio-material sciences of physics, chemistry and applied mathematics. Nor should they fear to express collective opinions, after all these years, upon those greater issues which concern the mind, soul and immortal spirit of man, both here and hereafter. For it is not enough merely to pander to an already outmoded (Victorian) form of scientific materialism, or to undermine and "debunk" all that psychics, mystics, poets, metaphysicians and spiritualists have so long held dear, even to death by fire or crucifixion, simply because such profound subjective experiences and beliefs, being ultra-physical and sporadic, do not readily lend themselves to laboratory demonstration or ordinary scientific analysis.

TRACING THE LOST

One of our members, Mr. L. J. Lootes, has sent us accounts of two personal cases as described below:

"We have a cross-bred puppy, Labrador and Terrier; he is about seven and a half months now, and quite a nice animal. About four months ago I had taken him for a run across the fields, and was nearing home again when he raced on ahead of me out on to the main road, straight under a passing car, one wheel going over the lower part of his right hind leg and foot. Luckily no bones were broken, but skin was torn off rather badly. The poor little dog was so terrified he dashed back into the field, passing me, too frightened, I think, to see me or to know where he was going. I watched him across the first field, then I could not see which way he went.

This was about 11 o'clock on the Sunday morning.

For hours I searched for him in vain, it must have been miles I tramped. Then at tea time I thought of the old slipper he played with so much, and wondered if by holding the slipper gripping my whalebone rod, the rod would give me the direction he was in. The result was marvellous.

I pushed my thumb up into the toe part of the slipper, gripping my rod firmly. In a few seconds there was a strong pull on the rod. Then my wife and myself set out across the fields in the direction indicated by the rod, whilst I kept an almost continuous grip on slipper and rod. We crossed over ploughed land and stubble fields, and then we came to a field of oats which had not been cut; the rain and winds had beaten it down so badly that it was a loss to the harvest yield. Anyway the rod said the little dog had gone through that oat field, so I followed, and on reaching the other end I found him in the long grass on the side of the ditch. The rod and slipper had kept me in a straight line for the dog. The little chap was very nervous when I found him but I'm glad to say he's fine again now. We are dog lovers, so you can guess our feelings on finding him.

In his fright from the car he had travelled a mile to that ditch."

"During the latter part of the 1939-45 war a man called on me very distressed, through the conduct of his son-in-law, who had deserted the Army. He asked me whether, if he brought me something the son-in-law had worn, could I tell him if he was alive and in what direction to look for him. He told me the Army authority had stopped his daughter's Army allowance, and that she had to accept parish relief. I asked him to bring something the offender had worn.

The following day he brought a sock and a civilian cap, saying there was a rumour that the young man had been seen in Gloucester. I took the two articles home with me at lunch time. Gripping the sock and a metal divining rod I quickly got the direction of the wanted man but not in the direction of Gloucester. After satisfying myself as to direction I asked my wife to give me the direction of the owner of the cap and sock. She used a metal rod and, gripping the sock, got exactly the same direction.

On returning the two articles to the worried father, I said, your son-in-law is alive alright, but its no use looking Gloucester way for him, you want to get down Birmingham way to find him.

How right that proved to be! In less than a week the young deserter walked into his own father's home in a little village close to Moreton. The father informed the police and the escort soon called for him.

He had deserted the Army, and had been doing a milk round in Birmingham."

RAMBLING RECOLLECTIONS OF A DOWSER

BY J. A. CLARKE

The article by Mr. Maby in the last *Journal* on tracing missing persons brings back memories of a very pleasant day.

I also tried to find the boy, received my piece of shirt and started operations. I picked up a strong line, and followed the trail for some distance, finally coming to another Dowser carrying a piece of shirt. After several attempts, with the same result, I realised that each person carrying a sample was laying a trail and so misleading me, so I decided to try distant prospection.

Climbing a wall, I held the piece of shirt on the right fork of my rod. I got a strong line. Following the line the rod indicated I was led to a point some little distance from the shed Mr. Maby mentions, the rod indicating some large trees near the edge of the wood, but could see no sign of the boy. Trying again near the trees, I picked up a trail that led me to the shed, but again no boy was to be seen. Swinging the rod from North, round the compass, I again got a line to the trees, and went along towards them. Just then the bell rang, indicating the tests were over, so I returned to the house.

On the way back I saw a boy and a companion coming from the direction of the trees, and the rod indicated this was the boy, but I had not been able to find him in the time allowed, so reported failure. It never occurred to me he might be inside the tree.

The President's report of the Summer Meeting shows how careful the Dowser must be. It is not sufficient that the rod turns strongly in one's hand, one must learn to read what the rod is telling one.

I was called to a farm to find water for cattle. When I arrived the farmer said : " My man is a diviner, and he says there is water at a spot over there." Going to the place I could get no indication of water, so the farmer called his man. When he arrived with his hazel rod it turned strongly over the spot. Watching it till it had completed its reactions, I said : " So you think there is water there ? " He said " Yes." I told him there was not water there at all. He indignantly exclaimed, " I'm not turning the —— thing." I replied, " Neither is it water that is turning it. What you are over is ironstone." Had the farmer sunk a well at this spot he would have declared water diviners were no good. I was able to find a good supply for him.

On another occasion, as I was leaving a farm, the farmer told me of a well at the cross roads where I should have to pass where, although a dowser had located it, the well was dry and no water had been struck. Going towards the well I crossed a good supply, but at the well (a very nice job, by the way ; by a Kenilworth firm, I believe) I could get no reaction for water. Testing out, I found the well had been sunk on the depth zone and not on the stream band at all. I wrote to the owners and offered to get a supply to the well, but they were disgusted with the result so far and would not do anything more about it.

Depth can also be a bugbear, in clay soils particularly. A farmer for whom I located water mentioned to me that a friend of his had sunk a well 80ft. in depth on a site located by a diviner, with no success—would I help ? Reaching the site, I found the well had been sunk directly over the stream, but the estimate of 80ft. was very short of the actual depth ; 120ft. was my estimate. As I left the district shortly after, I do not know if this proved correct.

Clay, especially, sets up what I call a resistance, acting like a condenser and shortening the depth register ; but this resistance can be measured, and added to the first depth estimate the actual depth should then be correct to a foot or two.

In one well I sited my first depth register was 45ft., but I picked up a resistance estimate at 32ft., making a total of 77ft. ; water was struck at 75ft.

A rather amusing thing happened at another farm. I had located the junction of several streams at 40ft., and the well was being sunk. The man who was down the well was supposed to be very religious. Calling to see how work was progressing, they told me they were nearly down to 40ft., when all at once there was shout from below to be pulled up, and for a religious man the language that came up from that well was a revelation. At the last blow of the pick the water had poured in and nearly drowned him.

And now for a little experiment some of our members might like to try : If I touch a non sensitive person with my rod and then send him out over a field, I can tell if he crosses water without myself going over the ground at all. My rod turns over as if I had been over the water myself. I should be pleased to know if anyone of our members can do this.

NOTES AND NEWS

Captain W. Bentham White (late R.E.) writes as follows: "Mr. Lea-Wilson sent me your journal because you published his talk on map-reading* and he had done quite a lot of this work for me in Aurangabad, India, when I was Garrison Engineer there in 1945. As you probably know, one of the main problems for the Army in such places was to get an increased water supply owing to the huge expansion during the war.

"Knowing practically nothing of dowsing I simply could not believe this map-reading at all. However, Mr. Lea-Wilson produced a map of the streams feeding a well which I was deepening. The well was the large Indian type about 20 feet in diamater, it had a stone parapet and on it we chiselled the position and depths of the underground streams where indicated by Mr. Lea-Wilson *before* I had the well pumped out. I took him to the well (which he had not seen before). The water was above all the streams he had mapped and he checked his map-work on the site, making slight alterations (I think about one foot) in his estimate of the depths but no changes in the stream positions otherwise. I then had the well pumped dry and we revisited it and checked his estimates. The two streams which were above the well bottom were found in the walls exactly as he had said except for a maximum error of six inches in the depth estimates —they were something like 24 and 30 feet or so. The third stream was considerably below the well bottom and I could not check it.

"His estimate of the relative flow from these streams was also correct.

"Needless to say I was very impressed by all this and Mr. Lea-Wilson did a lot of work for me locating old disused water ducts besides wells and springs. Sometimes I was able to check on the ground and always he was correct. What he did for me (miraculous as it seemed) must have been only a small fraction of the work he did in finding water for the farmers in that part of India."

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The following one inch sheets of the Geological Survey can be added to the list on page 233 of the last *Journal*:

7 Heilden Castle (Solid and Drift)
78 Wakefield
287 Sevenoaks

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* See *B.S.D.J.*, VIII, 63

The *Lynn News* of November 3rd had an article about 99-year-old Jasper Barnes, who is known as a competent water diviner for miles round.

* * * *

The *Glasgow Herald* of November 13th and the *Eastern Evening News* (Norwich) of December 12th contained articles about the drilling for oil in Cyprus. It appears that a local dowser, Polyvios Kyriakides, who has been remarkably successful in divining water, believes that he has located two large reservoirs of oil at depths of 6,000 and 10,000 feet below the sea. In spite of the adverse opinion of geologists boring is being carried out on a strip of coast nine miles east of Limassol and a depth of 2,000 feet had been reached revealing quantities of oil shale. Kyriakides discovered the site 20 years ago and to make sure of the significance of his reactions visited Rumanian oil fields in 1931.

* * * *

According to a note in the *Vancouver Sun* of November 25th Water Diviner D. Riggall has been engaged to locate a well for the new Saltair School at Ladysmith.

* * * *

Popolo e Liberta (Bellinzona) of November 29th describes in a short article how Sig. Gumpertz (B.S.D.) indicated on a map the spot where some hunting dogs which had been lost in a snow-storm were eventually found. This constitutes another addition to a number of other successes.

* * * *

A long article in *Reynolds News* of December 3rd describes how Bruce Copen (B.S.D.) attempted to help Mr. John L. Sutherland, of Vancouver, in the search for his son, Wilfred, who was reported missing in a bombing raid in 1943. At a meeting between Copen and Sutherland the former correctly described the route Sutherland had taken on a walk the previous day, which he had followed with a pendulum on a map. The attempt to trace the son has not at present been successful.

* * * *

In the *Evening Standard* of January 29th there is an article about Mr. W. J. Mullins, of Bath, the well-known member of a family famous for its dowsing powers. It is stated that he has just located an extra 550,000 gallons a day for a factory for which he traced a supply 26 years ago.

* * * *

The *Toronto Globe*, Canada, of December 28th, printed an article about Stan Martin, V.L.A. Supervisor for Waterloo County. Besides looking after the ordinary details of the V.L.A. accounts, some 400 in number, he locates well sites for the settlers, and has successfully located about 80 wells for veterans of the Kitchener area.

REVIEWS

WICHELROEDE EN WETENSCHAP

By S. W. Tromp ; Kosmos, Amsterdam.

The title of this work may be translated as " Divining-rod and Science."

In his preface the author expresses his diffidence in complying with a request from the publishers for a short treatise in Dutch on the lines of his very much larger English work *Psychical Physics*, as it seemed to him that he would be simply going over the same ground again. His diffidence was further increased by the fact that there had recently appeared a short popular work in Dutch by Bon entitled *Wat weet ik van aardstralen* (" What do I know of earth-rays ").

After due consideration, however, he decided that it might be worth while to bring out this small book, partly because the length of the earlier work, and its foreign language, might make it less acceptable to his compatriots than this shorter treatise in their own tongue, partly because he had made further observations since the English work appeared, and finally because no other book in Dutch included accounts of original observations by its author.

The book does not waste the time of the reader by giving more than a very brief sketch of the various phenomena, of types and methods of holding the rod, and of the history of the divining rod. As Dr. Tromp says, these can all be found in other books.

The book is divided into seven chapters as follows :—

1. " A theoretical prognostication of the reality of the dowsing phenomenon, based on common scientific laws."
2. " Experiments with the divining rod, which make theoretical probability a reality."
3. " Additional experiments, with a view to explanation of the dowsing phenomenon."
4. " Tests of Dowsers (causes of failure)."
5. " Causes of the dowsing phenomenon."
6. " The question of dowsing from a medical point of view."
7. " Some aspects of pallomancy (radiesthesia)."

The author deals almost entirely with the dowsing question from the point of view of physics and physiology. He deals briefly with the possibility of psychic effects, but thinks that the actual dowsing phenomenon is based much more on physical action, and lies outside the question of " trance " conditions, whether hypnotic or otherwise. He voices his opinion (p. 92) as follows : " In my opinion these phenomena have nothing to do with the divining problem proper, they can only bring about confusion. Perhaps it should be mentioned that this standpoint is not shared by the Parapsychological Society of the Netherlands, which actually gives the greatest value to paranormal phenomena, and will not support any physical theories."

In view of this standpoint one cannot wonder that he attributes no value to such inventions as the " boxes " of Mieremet, Werner, &c., which he thinks worthless and of an unconscionable price (p. 119).

Finally he supports his point of view in a carefully reasoned appendix, in which he reiterates his opinion that the dowsing phenomenan depends mainly on actions which can be explained by physical and physiological laws. He says that in his experience he has not observed successful

map-dowsing, while he also refers to experiments done in 1927 by Mekel, formerly head of the geophysical department of "Shell." These experiments, he says, showed that in no case was success obtained. Unfortunately he does not give a reference to the publication of these results.

The book gives a good resumé of the present state of knowledge of dowsing from the physical and physiological standpoint. It has naturally been impossible for the author to treat the subject in much detail, but he gives quite a good short bibliography for those who wish to pursue the matter further. C.S.T.

REVUE INTERNATIONALE DE RADIESTHÉSIE

No. 22

This number consists mainly of recollections, under the title of *Souvenir sur le Prince des Sourciers*, of the eminent radiothetist, the Abbé Mermet, one of the greatest pioneers of dowsing in its modern form. M. Henri Saxer, a pupil and close friend of the Abbé gives a brief sketch of his life and an account of his ceaseless and unselfish activities as a lecturer and practical dowser.

Alexis Mermet was born of French parents on November 11th, 1866, at Ollières in Haute Savoie. His father was a peasant and a dowser whose services were in frequent demand. Alexis was ordained priest in 1890 and appointed Vicar first at St. Jean de Tholome and then at La Muraz. He held offices at various times in the dioceses of Lausanne, Fribourg and Geneva. In the canton of Fribourg, from 1904 to 1916, he founded the parish of Seiry and was curé at Cernier, where he was much occupied with the construction of the church. From there he passed to Landeron, where he worked for six years, devoting much time to *l' Association populaire Catholique*. In 1922 he was nominated to St. Prex, on the shores of Lake Leman, and in 1933 passed on to Jussy, where he died on September 10th, 1937.

Abbé Mermet worked as a radiesthetist for 43 years without a break and developed an exceptional degree of skill in the use of the pendulum. He was probably the first to discover the "fundamental ray" and the use of "samples," and above all the possibilities of distant prospection or *Téléradiesthésie*. A record of his methods and experiences is contained in his well-known book *Comment J'Opère*. He began working on medical radiesthesia in 1905 or 1906 and soon became an expert with a wide reputation, his advice being sought by innumerable clients from near and far. Every day he had an enormous mail but was punctilious in meeting every request. He was indefatigable in journeying about the country to give lectures and carry out prospections, and M. Saxer gives interesting details of an example of *teleradiesthésie*, a prospection for water and a lecture.

Other tributes to the memory of the beloved Abbé are given by the well-known radiesthetists Alfred Lambert, Gabriel Lesourd and Victor Mertens, and in a short letter from the President B.S.D., who had the good fortune to meet the Abbé at two Congresses in Paris.

Following this *Souvenir* there is a portrait of M. Henri Saxer and a short note by Marcel Calame giving a record of his career and his activities as a radiesthetist. Having carried out a course of instruction under the Abbé Mermet, he became his collaborator and instructor on his behalf, and in 1935 was appointed by the Abbé President of

La Société Génévoise d'Etudes Radiesthésiques, which he had just founded. M. Saxer still gives two courses a year in the Abbé's instruction. He specialises in *Téléradiesthésie*, especially in tracing the lost, and has numerous successes to his credit.

Details are given of the first of six competitions which are being organised by M. Maurice de Gall. This one is the finding on a map (printed in the *Revue*) of a watch deposited at a certain spot in Fontainebleau.

L'Homme et le Radiesthésiste. Georges Carrère gives a sympathetic account of the work of Stanislas Bignand, including a description of his special pendulum. Bignand was a distinguished classical scholar and the basis of his technique as described by him would sound strange to the ears of an orthodox physicist.

Recherche des Eaux Souterraines. This is the first of a series of articles by M-G. Nicolas (referred to on page 241 of *B.S.D.J.* 70). It deals mainly with the spectrum of the zones accompanying an underground stream, in other words 'reaction bands.'

Notes et Documents comprises notes on radiesthetic activities in different countries. *France :* mention is made of M. Caro's remarkable success in the application of radiesthesia to archaeology in Provence, described by J. Rocher, whilst R. Louis Joly gives a short account of the work carried out in locating water supplies in Algeria after the terrible droughts in 1943-5. *Switzerland :* The constitution of the new committee of the *Fédération Suisse de Radiesthésie* is given. *Italy :* Early in 1950 an important congress was held by the *Centre Expérimental Italien de Radiesthésie* (Espera) under the presidency of Mme Valeria Brizi-Peretti, dealing with " the Home and Radiesthesia." Addresses were given by Ernesto Brizi, by Dr. Enrico Vinci and finally by the President, in whose lecture were considered the arrangement of furniture in regard to harmful rays, orientation, " waves of shape " and colours. A.H.B.

RADIESTHÉSIE POUR TOUS

November

p. 325. Determination of human vitality. Pierre Bories describes how the late Dr. Marty used to check up the vitality of his patients. He used a circular protractor graduated contra-clockwise for 0° to 360°, with the 0° and 180° divisions lying to the right and left of him respectively, the 90° division being at the top of the protractor as it lay in front of him. Apparently he faced no special point of the compass. Touching the patient with his left hand, Dr. Marty held the pendulum over the centre of the protractor. Mean vitality measurements came between 250° and 180°, high vitality registered above 250°, and low vitality under 180°. When using a witness (he preferred hair), he held it tightly in the left hand. Suitable remedies held in the left hand with the witness corrected deficient vitality measurements.

p. 329. J. Bervroux sets three problems for amateurs, one of which differentiates between radiesthetic magnetic fields delimited by points on a rule and reactions obtained at certain points on different rules, where the scales are different but the reactions occur at the same numbered divisions. We might say that the first result gives an absolute dimensional reading, while the second is based on " scale effect."

p. 331. " Appollonius " writes on the importance of eye exercises.

p. 333. The Ondobiometer. Gaston Oudotte discourses on the importance of being able to measure human energy in medical diagnosis, as can be done with the Ondobiometer. This article is to be continued.

p. 337. This article on mental orientation, based on the writings of Emile Christophe, is for the beginner. In looking for a lost object with the pendulum you should think of the object and of its appearance, *but without any effort of concentration*. On searching for water, you should not think to yourself, " I want to find water here," for if you do, you will probably get a reaction for water. You should say to yourself, " I want to find water if in fact it exists here." Indeed it is affirmed that even with purely physical methods, one uses mental orientation without knowing it. For the fact of looking for something implies thinking of it. It is stated that M. Voillaume has proved the reality of the mental " ray " and the link which establishes itself between a person and what he thinks of. The method can thus be said to be " objective." R.P.T.

p. 339. " Visual Radiesthesia." André Castille writes of the part played by the eye as radiesthetic detector.

p. 340. Medical radiesthesia. W. Herrinckx outlines in this second article different methods employed, stating their advantages and disadvantages.

p. 343. Writing of the proceedings of the Assembly of Radiesthetists at Luxembourg on September 3rd last, Henri Meier disagrees with Professor Braunshausen and the authors he has consulted on the non-existence of harmful earth rays. He writes that he had before him the photograph of a roadway near Bremen, in Germany, where 100 motor-cars had already crashed. All his friends, not aware of this, obtained reactions with the divining rod when tracing the roadway where the accidents occurred, caused by a subterranean stream. If only a sign could be put up at the spot warning drivers to go slow and not to hold the steering wheel with both hands (as the dowser holds his rod), the author comments ! [We refer to these observations as the idea of such accidents being due to earth rays is new to us.] M. Meier goes on to argue in favour of qualified medical practitioners employing radiesthetists to help them in their work, and he refers to British doctors practising radiesthesia having their own journal and holding meetings in London. " In Continental Europe we should instill into ourselves a little of the veritable democracy."-

p. 347. This is the third article on food and vitality—what one should, or should not, eat.

p. 348. A book, *La Radiovitalité des Aliments*, by an engineer, A. Simoneton, is reviewed. According to him all foods really good for human consumption should have a wavelength above 6,500 Angström units, the wavelength of healthy human beings, as of all red-blooded animals. 6,500 A corresponds to the mean wavelength of the red band of the solar spectrum.

p. 351. C. Chumaher writes on the greatness of homoeopathy.

DECEMBER

p. 355. J. Bervroux writes on the existence of harmful objects, such as statuettes, jewels, certain archaeological specimens, and so on. In spite of all that has been published it seems, M. Bervroux says, that a proper distinction has not been made between objects which bring ill-luck, such as the Hope blue diamond ; objects which bring

misfortune by way of producing mental symptoms such as melancholy, neurasthenia, &c., i.e. certain Egyptian jewels and even cheap miniature reproductions of mummies ; and objects which affect health adversely, such as certain precious stones badly suited to their owners, certain Asiatic jewels, sculptures from the Congo, and so on. The pendulum can be used to see if such objects are in accord with, or harmful to, a person's vibrations. The author goes on to speak of orientating objects, and he tells how the unfavourable influence of an object may sometimes be cut off merely by orientating it. Fortunately many objects give off highly beneficial emanations.

p. 359. W. Herrinckx continues his articles on " Initiation to Medical Radiesthesia." That which proves the efficacy of medical radiesthesia, he says, is the large number of cures.

p. 366. Radiesthetic research and the subconscious. In considering aid to obtaining a radiesthetic response, P. Bories says that the witness (or sample) would appear the most important, which may be natural, impregnated, artificial or photographic. From his point of view, whatever it is, natural or imaginary, it serves to establish the liaison between the operator and his subconscious mind so as to produce the reaction. But it is the thought which puts the mechanism into action, and it is this action which the pendulum interprets.

p. 370. In this sixth article on radiesthetic portraits, Henri Souty discusses those of Saint Evroul and his wife, Evroul having been born of Christian parents at Bayeux in 517. The portraits, which are reproduced, reveal the progressive methods of Mme. Monroy, being stippled, drawn, and then coloured in crayon, so that in effect they are pastels.

p. 373. The greatness of homoeopathy. By C. Chumaher. The progress of homoeopathy in different countries is briefly reviewed, beginning with great Britain. Homoeopathy is making progress in many other countries and is officially recognized in some. The article is a most useful summary of the place homoeopathy at present takes in the world, and it is interesting to note that Mexico is the first country in which homoeopathy was officially recognized by decree—in 1895. In the United States there are more than 20,000 doctors practising pure homoeopathy alone.

p. 379. Beginner's corner. Some exercises to improve his dowsing capabilities.

p. 387. A fourth article on food and vitality. By R.P.T.

p. 389. G. Oudotte continues his articles on the Ondobiometer.

p. 395. In a letter to R.P.T. C. Voillaume poses the question, " Is *rémanence* a very general phenomenon," and then answers in the negative. He states that while *rémanence* is a fact, the bodies which provide it are few, among the more common being gold, silver, mercury, cadmium, platinum and, curiously, diamond (carbon). Iron, he says, has never shown evidence of providing this phenomenon, which he attributes to an impregnation of emanations proceeding from the body concerned. The author mentions the strange phenomenon, " which has intrigued many people," that if water in a glass comes into contact, even for an instant, with a silver object, it will react to the pendulum as if it contained silver, and this property extends to glass. On the other hand, he goes on, it is known that water in a silver container becomes sterilised after a time.

p. 397. A diviner's Christmas. A story by P. Bories, in which he quotes from *Mes Origines*, by Frédéric Mistral.

p. 399. Radiesthesia in agriculture. This is the ninth article by F. Servranx on this subject, in which he deals with bad emanations from the ground bringing misfortune of a malific kind. If a farming family has always suffered misfortune since it first occupied a property, there are good reasons to believe that harmful earth rays are responsible.

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p. 9. A novel form of exercise is posed for the learner. A diagram 23 x 25 cm. is reproduced to small scale, on which there are a number of comic pictures in small squares. On one of these pictures on the original diagram (orientated North-South) a brass weight of 100 grammes was to be placed on January 1st. Readers are invited to find from the reproduction by the map dowsing method on which square the weight has been placed.

p. 11. Electronics and medicine. By Professor L. Keffler. An introduction to this article refers to the Radionic Congress held in London in May last year, when the proceedings included a discussion on the work carried out in recent years at the Delawarr Laboratories at Oxford. In view of the report to be published on the work of the Congress and the fact that much of it derives from the original researches of Dr. Abrams in the United States over 25 years ago, it was decided to give a *résumé* of this work based on the book *The Detection of Disease*, by Drs. Parkes and Perkins, published in 1930 by Sampson Low. There follows an article of over 14 pages summarising Abrams's discoveries and referring to the Horder report. This report, while admitting that the fundamental proposition on which the Abrams reflex actions was based was established with a very high degree of possibility, stated that this conclusion did not apply to the diagnosis and treatment of disease as a practical procedure. On the other hand, in criticising the report, Sir James Barr, ex-president of the British Medical Association, stated : " Abrams was by far the greatest genius the medical profession had produced during the previous half-century."

p. 27. Gaston Oudotte continues his articles on the Ondobiometer, which is used in conjunction with a pendulum. He comes to the conclusion that the frequency of the radiation of any substance is exactly proportional to the square root of the pendulum string length, as adjusted to the substance in question, which supports the idea that the neuro-muscular system of the pendulist reacts to the influence of the substance, or body, examined. It would appear, he says, that the proportionality between apparatus and detecting instrument is proof of the physical basis of pendular action and of the existence of radiations of matter, which appear to be analogous to known electromagnetic radiation.

p. 29. Initiation to medical radiesthesia. In this fourth article W. Herrinckx describes how curative results can be obtained by finding the appropriate remedy or remedies by radiesthetic means without a diagnosis, and describes simple methods of remedy selection. His emphasis is on the value of radiesthesia for choosing the homoeopathic remedy, while fully acknowledging the value of orthodox methods of diagnosis. This choice of remedy (he says), which is not confined to homoeopathic remedies, is perhaps the greatest service which radiesthesia can render to medicine.

p. 32. A note records with regret the sudden death of C. Voillaume on November 15th last. M. Voillaume did much to forward the cause of radiesthesia and to bridge the gap between different radiesthetic schools. V.D.W.

BOOKS AND APPLIANCES

The Editor will be glad to receive old copies of B.S.D. Journals, especially of No. 54, and of English books on dowsing.

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Mumetal rods for depthing can be obtained from the Telegraph Construction and Maintenance Co. Ltd., Telcon Works, Greenwich, London, S.E.10, for £3 17s. 6d.; delivery in 10 to 12 weeks.

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Messrs. Devine & Co., St. Stephen's Road, Old Ford, London, E.C.3, supply whalebone strips 12in. long of the following sections at 5/- per pair:

Flat	.. ..	7 mm. x 2 mm. or 3 mm.
Circular	.. ..	3 mm. or 4 mm. in diameter
Square	.. ..	3 mm. or 4 mm.

Also spherical whale ivory pendulums at 10/- each.
Prices of other sizes of rods and pendulums are given on request.
All prices post free in U.K.

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The "Link" divining rod described by Mr. Guy Underwood in his article on Spirals and Stonehenge (*B.S.D.J.* 62, Dec., 1948) can be obtained from him at Belcombe House, Bradford-on-Avon, Wilts, price 8/- post free in U.K. Reprints of this article are available at 2/- each. Reprints of 10 Essays and Lecture, 15/- the set.

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Price list and photographs of the full range of Delawarr Instruments can be obtained on request from Delawarr Laboratories, Raleigh Park Road, Oxford.

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Price list and instructions regarding radiesthetic Rules and Witnesses, appliances for broadcasting favourably to plants and humans, and for radiesthetically vitalizing foods, are obtainable from Animal and Plant Studies, Moulsham Mill House, Chelmsford.

Keepers of poultry may be interested to know that a limited number of samples of poultry diseases is obtainable from M. Turenne, through Mr. Macbeth, at the price of 12/- per set of eight witnesses.

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Copies of *Dowsing* by Pierre Béasse can be purchased from the Markham House Press Ltd., 31 Kings Road, S.W.3, for 12/- post free. The Schumfell radio-magnetic detector described in the book can be purchased by members from the author, 37 Rue Rossini, Nice, A.M., France, at a reduced price of £3 12s.

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The *Electronic Medical Digest*, published quarterly by the Electronic Medical Foundation, San Francisco, can be obtained through the Biotechnic Press Ltd., BCM/Biotechnic, London, W.C.1, at 19/6 per year.

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La Revue Internationale de Radiesthésie, which contains contributions from many countries on all aspects of Radiesthesia, and is issued every two months, can be obtained at Editions Palatines, Grand'Place, Mettet, Belgium; subscription 250 Belgian francs per annum.

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Radiesthésie pour Tous can be bought at The News Stores, 10 Coptic Street, British Museum, London, W.C.1, at 2s. per copy.
Twelve consecutive copies can be ordered through Mr. Noël Macbeth, Moulsham Mill House, Chelmsford, Essex, for 25/-.

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Members requiring any of the books or appliances mentioned above should apply direct to the address given, and not to the Assistant Secretary.

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